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THE NATIONAL GEOGRAPHIC MAGAZINE

SEPTEMBER, 1910

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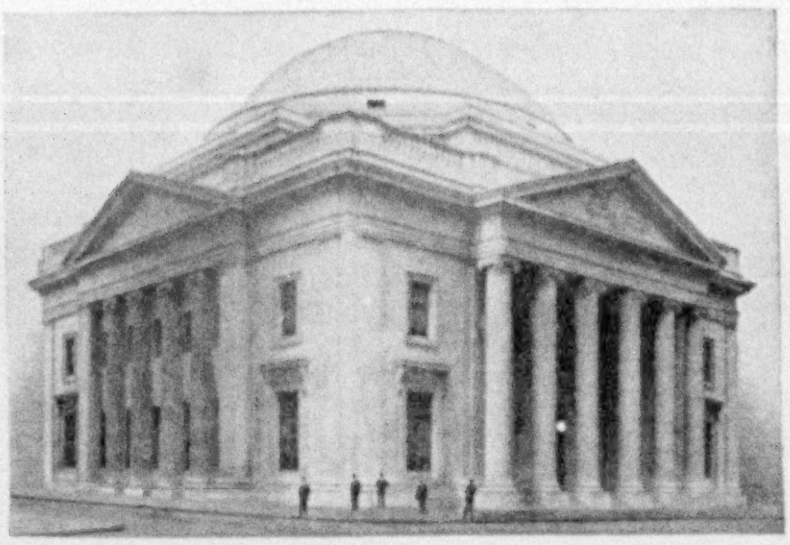

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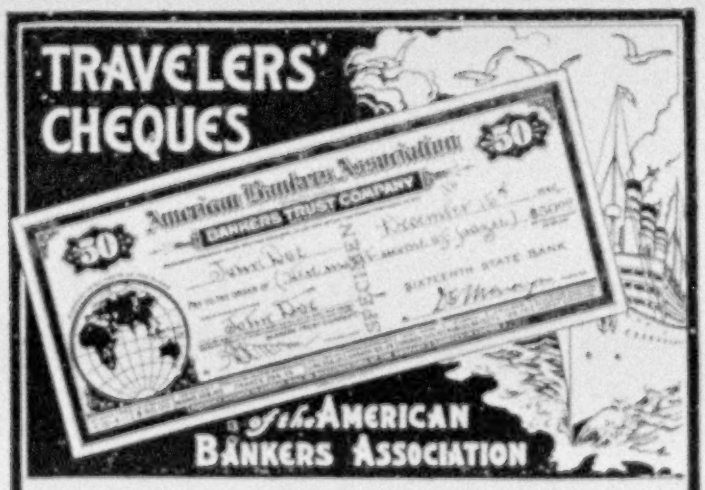

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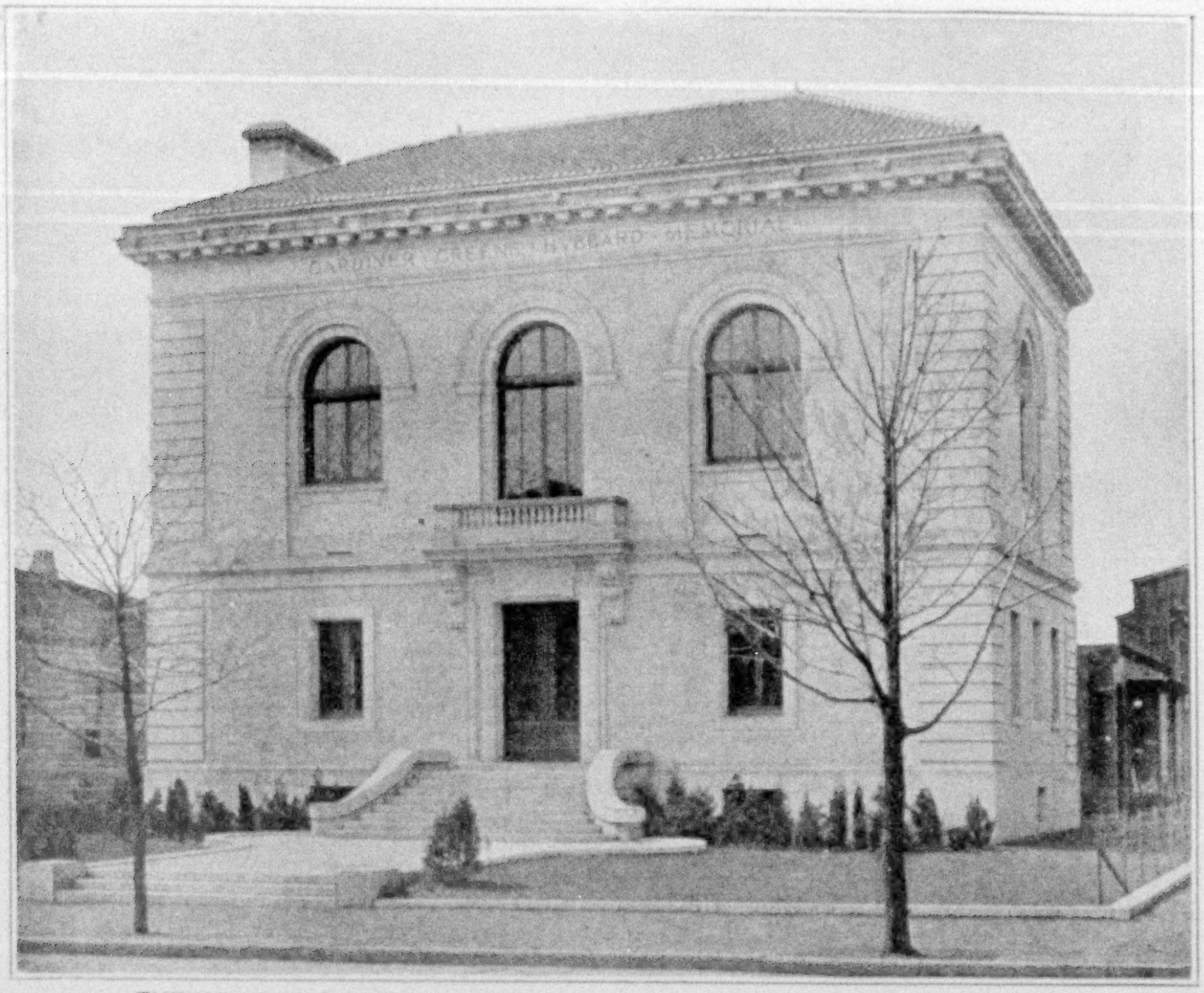

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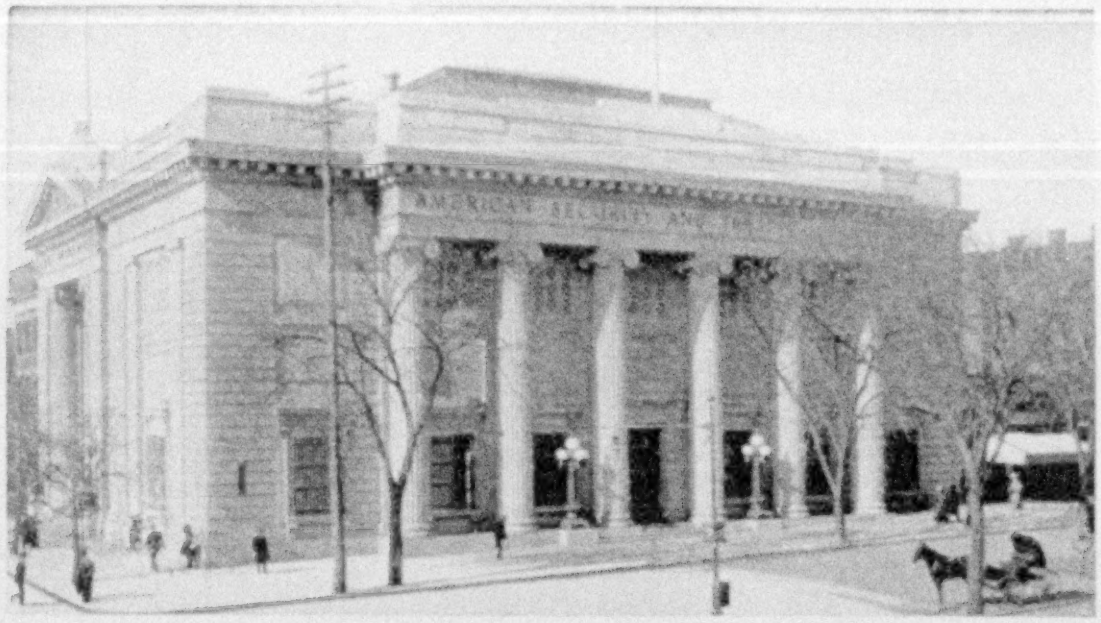

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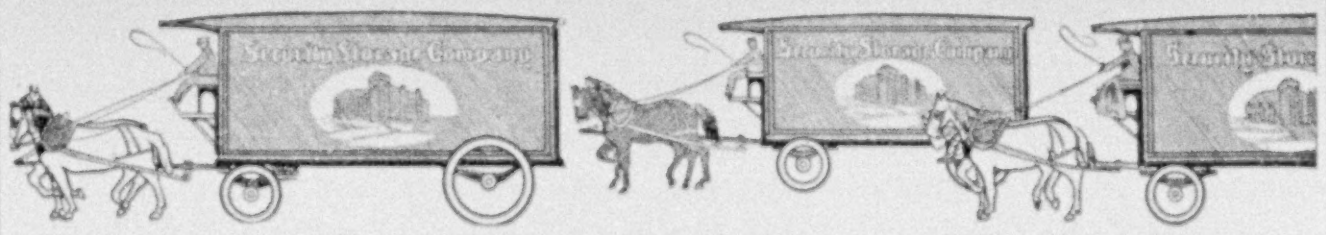

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THE NATIONAL GEOGRAPHIC MAGAZINE

NOTES ON THE ONLY AMERICAN COLONY IN THE WORLD

By Edgar Allen Forbes

With Photographs by the Author

LIBERIA is an American colony." This brief sentence is not as commonplace as it looks. An American colony? Of course. Was it not founded by the American Colonization Society, in conjunction with the United States Government, on land "acquired by purchase from the lords of the soil"? Nobody else participated in its founding; even the West Indian settlers came at a later period.

As a republic it has a declaration of independence, a constitution, and a flag, all modeled closely after our own, and its people have never claimed kinship with any other hemisphere but ours. As a matter of fact, Liberia is the only place in the world where the American people have established a colony made up mainly of Americans. And yet, up to the time of Secretary Root, the most that an American Secretary of State would admit was this: "*To the United States it is an object of peculiar interest.*"

Liberia is unique in another respect: it is the only part of the black man's continent that is now governed by the black man himself. All Africa is European except Abyssinia, Tripoli, Morocco, and Liberia, and the people of the first three are not negroes.

To one who has wandered about in Africa and realized that mission schools, Standard Oil, and Singer sewing machines are there the only reminders of the existence of an American republic, Liberia is a startling change. Elsewhere in Africa the United States is merely a geographical fact, and a fact of no consequence; its currency is good only here and there; its colloquial language is an unknown tongue; its most familiar institutions are as foreign as a Fourth of July celebration in Russia.

But sit with me on the balcony of the American Legation in Monrovia and remember that you are in Africa. This little capital, like the Monroe Doctrine, bears the name of a president of the United States. This main street, the Pennsylvania Avenue of the capital, has the name of Ashmun, who lies buried in New Haven, Connecticut. Yonder lagoon, Stockton Creek, which leads into the Saint Paul River, commemorates an officer of the United States Navy. The little strip of land beyond it, Bushrod Island, got its name from Bushrod Wash-

THE SUPREME COURT OF LIBERIA Photo by Edgar Allen Forbes

Chief Justice Roberts (a Georgian) in the center; Justice Tolliver on the right; Justice Richardson (on the left) is also President of the College of Liberia

ington. That building across the street is the "Executive Mansion". Glance at the flagstaff above it—the flag is the *star* and stripes. And where else, on the eastern side of the Atlantic, will you hear men talking familiarly about "the President," "the Senate and the House," and "the Supreme Court"?

All along Liberia's 350 miles of coast and up and down the sluggish rivers the story is the same. You are constantly passing little settlements that bear such familiar names as Virginia, New Georgia, Clay-Ashland, New York, Louisiana, Buchanan, Hartford, Greenville, and Lexington. And if you go ashore at Harper and Latrobe (Cape Palmas), in Maryland County, you can refer to Baltimore without explaining that it is a city in the United States.

And if you stop to talk with Liberians in any part of the country, you learn quickly that these are not the names of a glory that has departed. It is a curious fact that the American spirit is stronger in Liberia than in many parts of the United States itself. I once sat at a banquet given in Cape Palmas by Vice-President Dossen. As the speakers responded to their various toasts, it struck me that a chance listener would have imagined that this was a company of American negroes come ashore from some passing steamer.

Even the houses of the Liberians are different from those of Sierra Leone and other colonies; they are built in the style of the Southern States. Much of the furniture and the clothing and most of the books and papers that you see are from the United States. The filling of an American order requires months of waiting, the cost is higher, and the Liberians are poor people, but they want

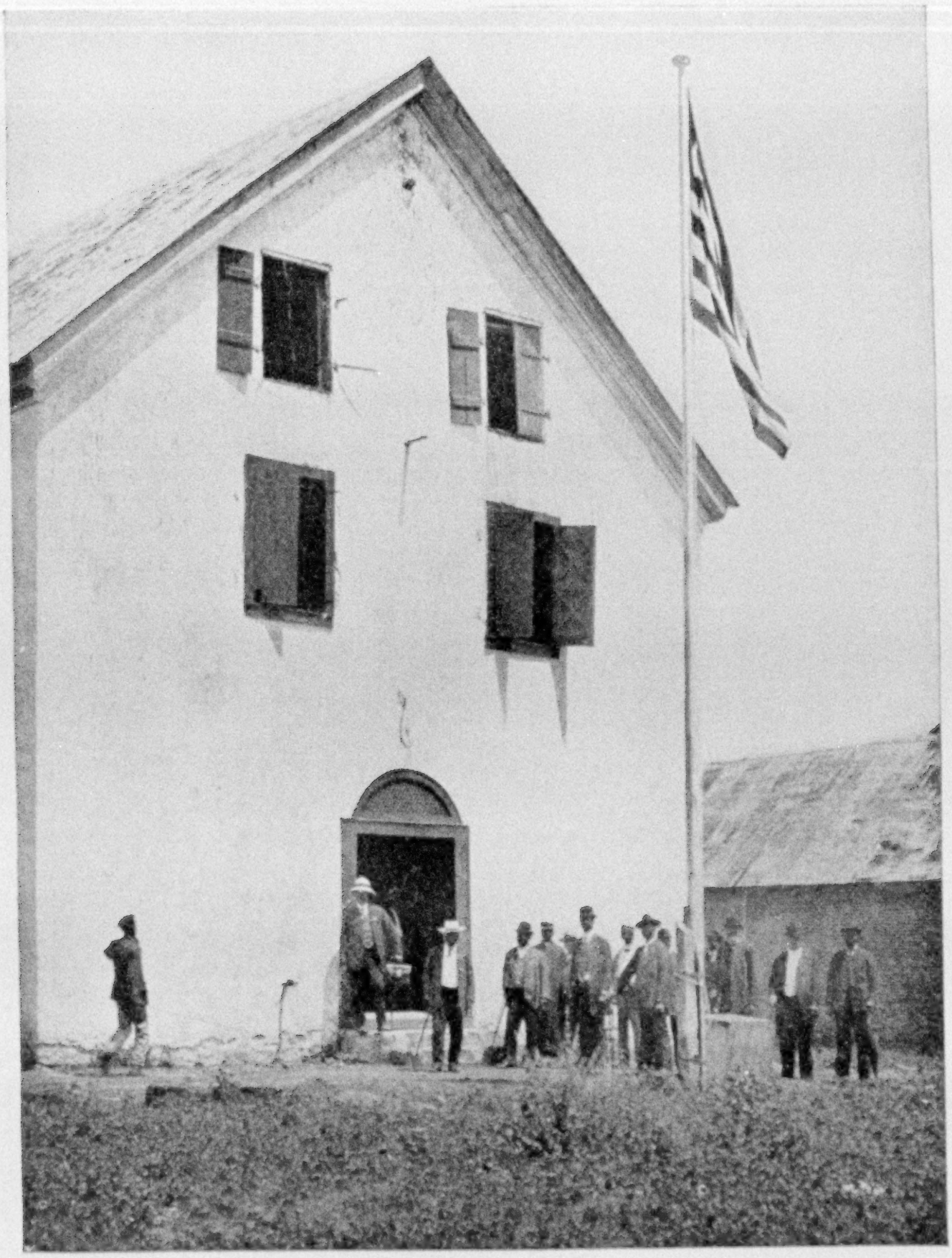
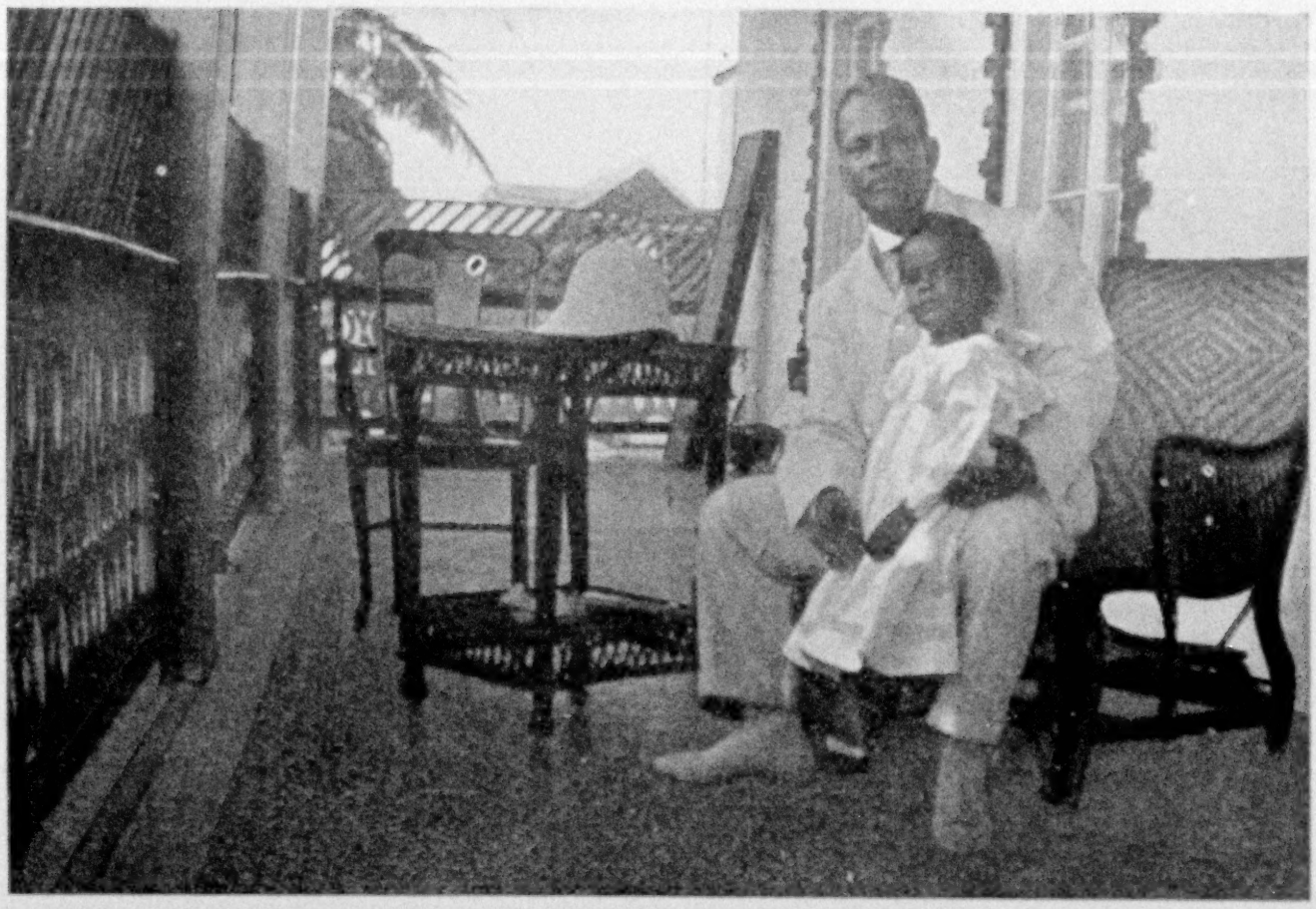


Photo by Edgar Allen Forbes

THE LIBERIAN SENATE, IN FRONT OF THE SENATE CHAMBER

The tall man in the center is Vice-President Dossen



DR ERNEST LYON, FOR 6 YEARS AMERICAN MINISTER TO LIBERIA, AND HIS YOUNGEST SON

Photos by Edgar Allen Forbes.

MISS ANNABEL LYON, CLERK OF THE AMERICAN LEGATION

She also looks after the social side of the Minister's household

what they want when they want it. Few of them have even seen or ever expect to see the United States, but they like to feel that they are still a part of America.

I shall not soon forget a feeble, gray-haired negro who hobbled up the steps and held out a hand that trembled with excitement. "I seed you on the porch," he said, apologetically, with that old-time negro deference, "an' I knowed you wuz sum o' mine—an' I'm some o' yourn." And I should like to remark right here that the negroes of Liberia are as polite and respectful to the white man as they are in Kentucky.

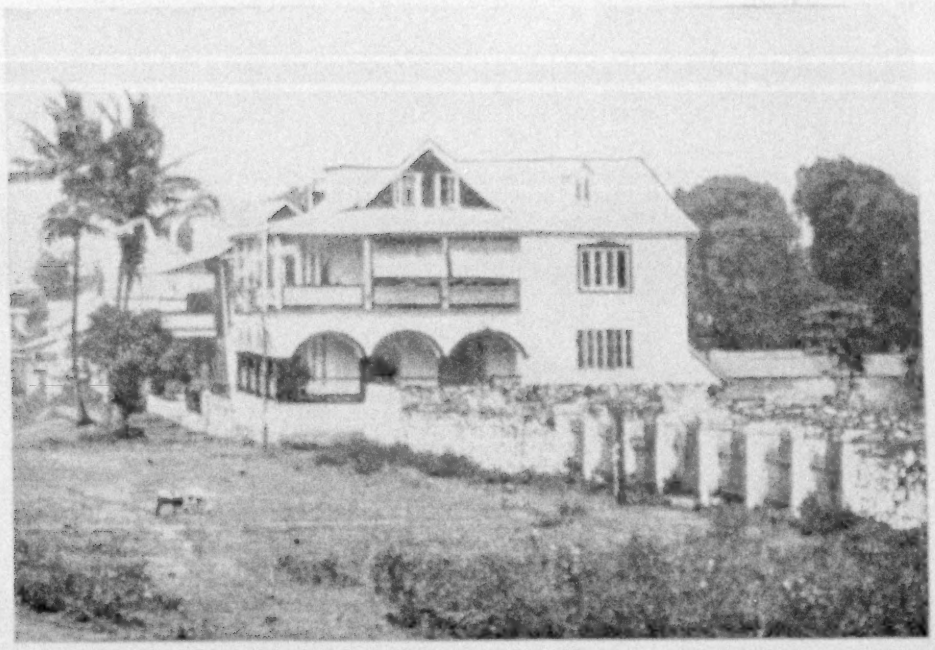


Photo by Edgar Allen Forbes

THE HOME OF THE AMERICAN LEGATION IN MONROVIA

It is owned by a negro farmer who left the United States as a freed slave-boy

It is sometimes overlooked that Liberia is one of the most interesting colonial experiments of modern times. There are three cities on that death-inviting West Coast that were founded as homes for returned slaves—Freetown, Libreville, and Liberia—all with prefixes meaning "free." Freetown was taken over by the British Crown more than a century ago because it then had the only safe harbor on the entire coast. Libreville went the same way when French imperialism awoke, and it is now the capital of the French Congo. Only Liberia remains free.

Wholly apart from our own connection with the establishment of the colony, it is interesting to read the declaration of independence of 1847.

"The western coast of Africa was the place selected by American benevolence and philanthropy for our future home. Removed beyond those influences which depressed us in our native land, it was hoped we would be enabled to enjoy those rights and privileges, and exercise and improve those faculties which the God of nature has given us in common with the rest of mankind.

"Under the auspices of the American Colonization Society, we established ourselves here, on land acquired by purchase from the lords of the soil. . . .

"In coming to the shores of Africa, we indulged the pleasing hope that we should be permitted to exercise and improve those faculties which impart to man his dignity—to nourish in our hearts the flame of honorable ambition, to cherish and indulge those aspirations which a beneficent Creator hath implanted in every human heart, and to evince to all who despise, ridicule, and oppress our own race that we possess with them a common nature, are with them susceptible of equal refinement, and capable of equal advancement in all that adorns and dignifies man. . . . Thus far our highest hopes have been realized."

"Thus far"—but that was 63 years ago. The agitation that preceded the Civil War came upon us then and the little African republic dropped below the horizon, there to maintain its struggle as best it could. What about its "highest hopes" today?

This was the question in my mind as I looked one night upon the dark outline of Cape Mesurado and waited on shipboard for the dawn. With eager interest I went ashore next morning, curious to see how the little experiment had turned out, and curious, as a Southern man, to see how the negro type had been affected in the second and the third generations.

Perhaps I should say frankly that I had gone to Liberia with the understand-

THE RESIDENCE DISTRICT OF MONROVIA

Photos by Edgar Allen Forbes

YOUNG OFFICERS FROM THE U. S. S. "CHESTER" ASHORE AT SIERRA LEONE

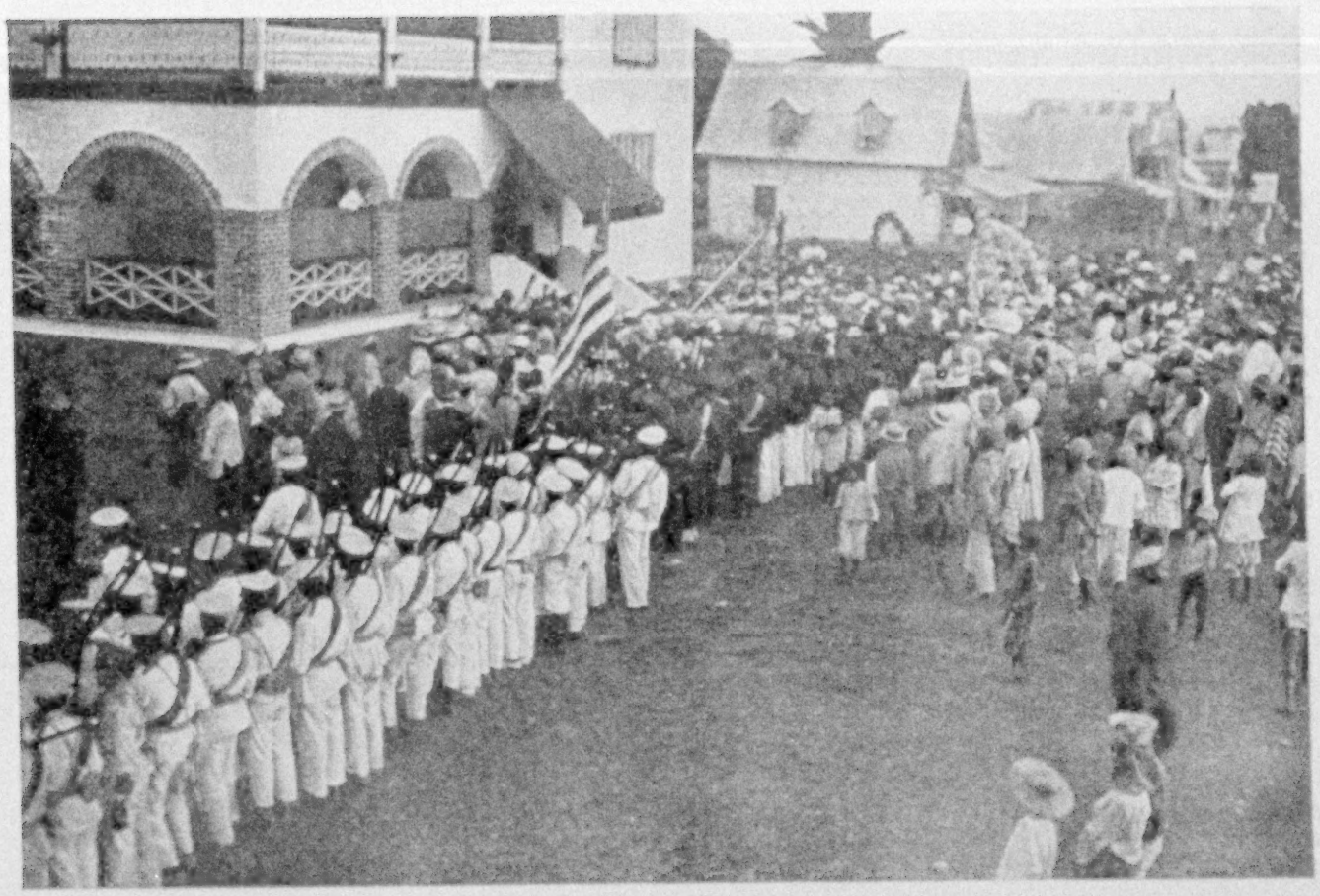
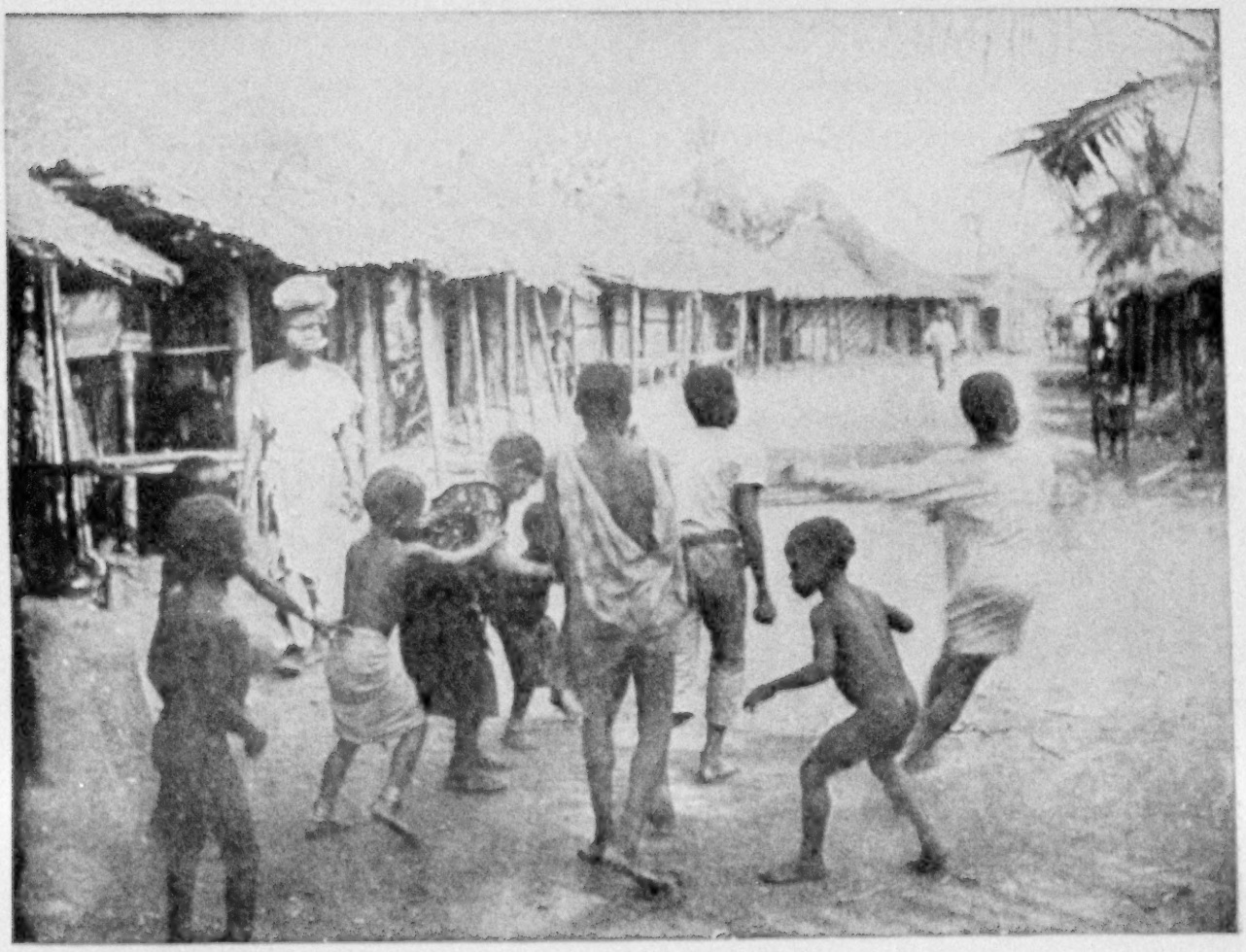


Photo by Edgar Allen Forbes

ONE STAGE OF LIBERIA'S WELCOME TO THE AMERICAN COMMISSIONERS
The men in uniform are local militiamen



SCENE IN A LIBERIAN VILLAGE

Photo from Captain Cloman, U. S. A.

LIBERIAN GUARDS AT U. S. LEGATION, MONROVIA

ing that it was the final, unmistakable evidence of the black man's inability to govern himself. Being familiar with the negro and his traits, it did not take long to grasp the significance of Monrovia. Since the freshness of those first impressions was lost in the intimate observation of the more stirring events that came afterward, I cannot do better than put down here what I wrote at the time.

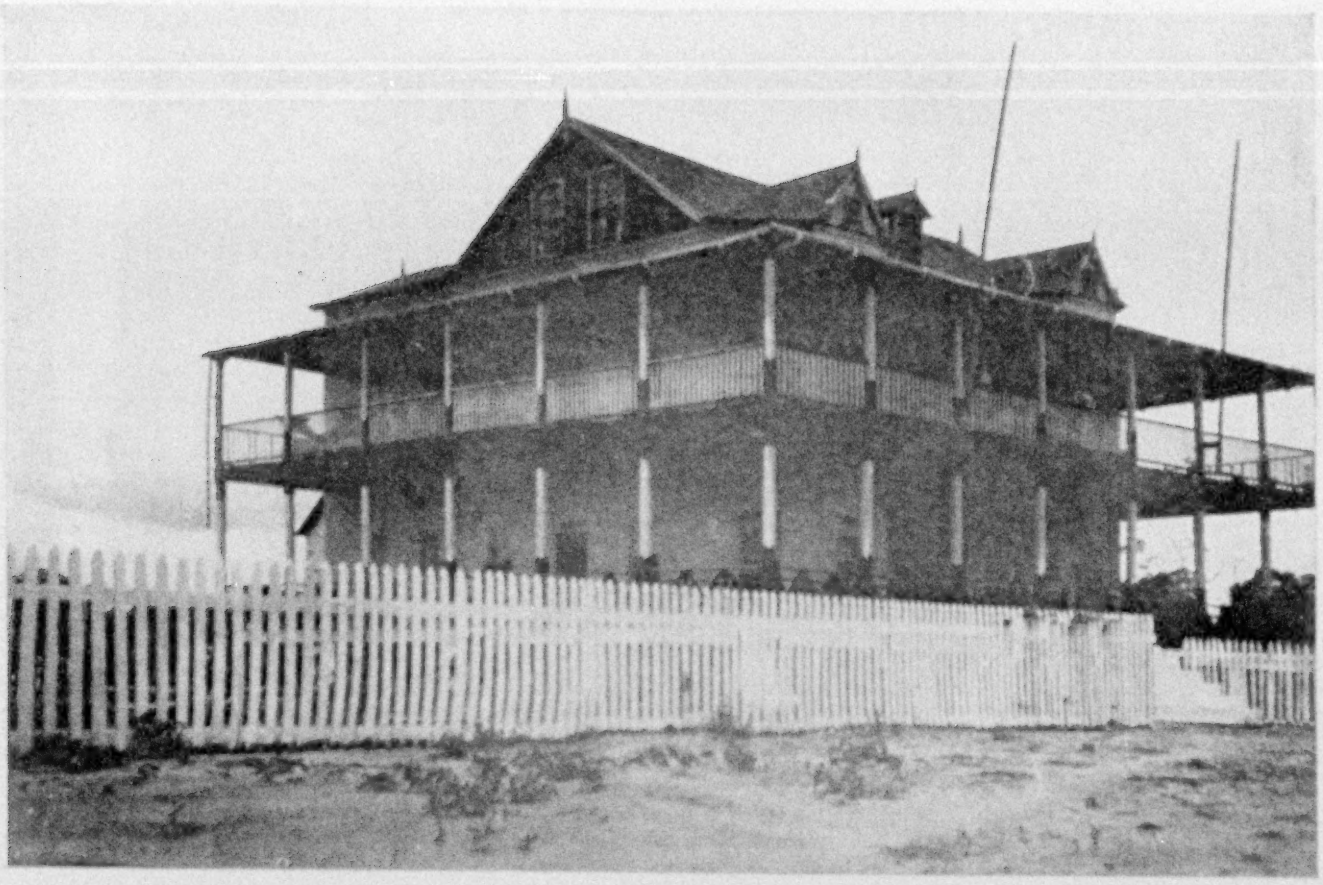
There is much about Monrovia that reminds me daily of home, more particularly of my earlier home in the South. I see no real difference between the people of Monrovia and those of the same race in the United States. Even their shortcomings are homelike.

The capital presents from the ship's deck an aspect of quiet civilization that is in marked contrast with the clusters of thatch-roofed huts on the islands near by. The main street is lined with attractive cottages having large porches and balconies, with the Executive Mansion facing an open square. Beyond is the residence district—streets of frame cottages of which an English writer remarks that there is nothing like them to be seen anywhere else in Africa. The general average is about that of the homes of the most prosperous negroes in America.

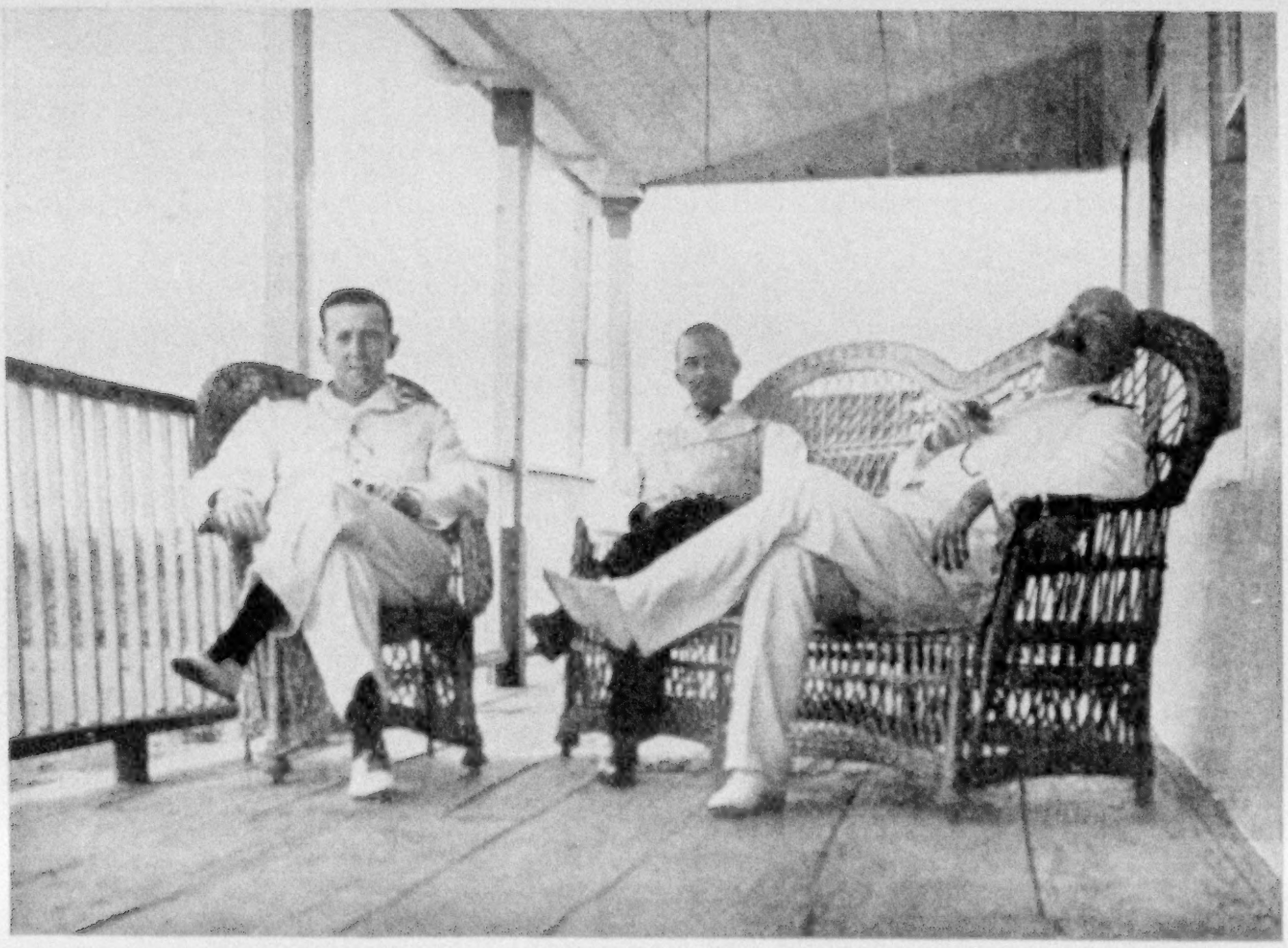
The people of Monrovia look, dress, and act very like the better class of negroes of Atlanta or Louisville. All the Americo-Liberians (and many civilized natives) are neatly but not flashily clothed, and most of the aborigines put on an extra cloth when they come to town. I doubt if there be anywhere in the United States a negro community of the size of Monrovia where there is so little boisterousness, profanity, and indecency. Swearing is a lost art, and I saw but one case of drunkenness during my first month in Monrovia.

The Liberian Sundays suggest the quiet of a New England city—a quiet that is broken only by the sound of church organs and congregational singing. The churches are well attended, and the services are conducted with due regard to dignity and reverence. There appears to be a complete absence of the American saloon, of the degrading concert hall, and of the negro "dive." The Monrovian may not be a paragon of virtue and sobriety, but he is certainly a decent citizen.

It is well for Americans to know—and I say this with regret—that information about Liberia is not to be trusted if it come from European sources. There are some English gentlemen, for instance, who have had an object in persuading the outer world that the negro republic



THE RESIDENCE OF SENATOR S. G. HARMON AT GRAND BASSA
Senator Harmon is one of the wealthiest of the Americo-Liberians



SENATOR HARMON (IN THE CENTER) ENTERTAINING THE OFFICERS OF AN ENGLISH STEAMER

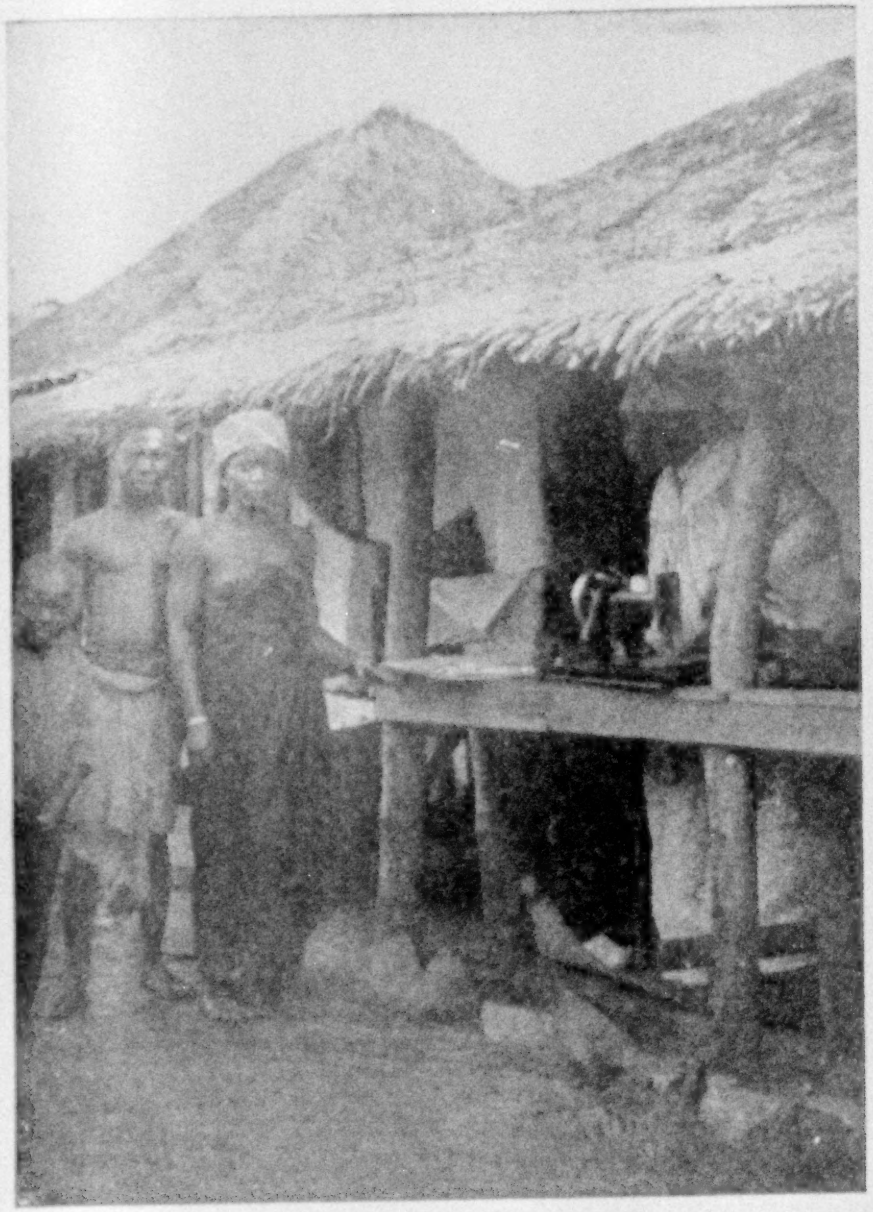


Photo from Captain Cloman, U. S. A.

VISITING A NATIVE TAILOR SHOP: LIBERIA

Note the sewing machine

Photo by Edgar Allen Forbes

TWO DESCENDANTS OF LIBERATED CONGO SLAVES: NEAR MONROVIA

was tottering on its last legs into anarchy and ruin.

Take just one example out of many that I could give. The leading merchant of Grand Bassa was expecting an important shipment of merchandise from Liverpool. The steamer that carried me into that port was expected to bring the goods. Instead the merchant received a letter from the Liverpool shippers saying that they deemed it inadvisable to fill his order until Liberia recovered from its turbulent condition. Now, to my knowledge, the whole land was as calm as Toronto on a Sunday, so I inquired into the cause of the Liverpool rumor.

And this was the cause: a delegation of dissatisfied farmers from some of the settlements up the Saint Paul River had come down to Monrovia, marched in orderly procession to the Senate chamber, formally petitioned that body to impeach President Barclay, and then quietly dispersed. It was the "tamest" sort of a political demonstration. I saw a larger one, gotten up by the opposite party to counteract the effect of the first, and it was about as tumultuous as a parade of the Order of the Eastern Star. Yet the British consul general cabled to Europe that Liberia was in a state of wild disorder and that the government was in imminent danger of being overturned.

Nobody outside of the British diplomatic service knows whether the fault lies with the Foreign Office or the Colonial Office, or with both, but nearly every foreigner in Liberia (except the English) will tell you that some one has unquestionably had a dream of seeing the English flag flying over the Executive Mansion in Monrovia.

Everybody knows how easy it is to lend money to a negro; knows also that the lending of money is a popular way that Europe has in playing the game of grab. In 1871 some bankers of London floated a loan of $500,000, with the export duty on Liberian rubber as security. Sir Harry Johnston, being an Englishman, cannot be accused of exaggeration when he says in his book that there was so much fraud in the transaction that $200,000 is a fair estimate of the money that actually reached Liberia.

Some later historian will show, in a similar way, how another British company defrauded Liberia in the loan of 1906 for another half million. The financial result of these two transactions is that, from two loans amounting to about half of Liberia's public debt today and on which the country is regularly paying interest to the British, the republic has very little to show. But the financial result proved to be unimportant as compared with the political result.

Here is what I found on arrival at Monrovia: British officials sitting at the receipt of custom; British army officers in command of the only regular troops; a British naval officer commanding the only gunboat; a British consul general dictating peremptory dispatches to the Liberian government after the fashion of Lord Cromer in Egypt.

CONDITIONS IN LIBERIA

Notes from the Report of the Recent Commission to Liberia—Messrs Roland P. Folkner, George Sale, and Emmett J. Scott

THE commission was impressed with the dignity and intelligence of the representatives of the government with whom it had dealings. Though these were relatively few in number, they represented the best of Liberia's citizenship, and the fact that the best men find their way into public employment is itself a favorable circumstance.

The Liberians are not a revolutionary people. Since the beginning of their

A SMALL PART OF THE METHODIST MISSION AT GARRAWAY Photo by Edgar Allen Forbes

Where Miss Anna E. Hall, of Atlanta, is directing one of the most successful tasks in the whole country

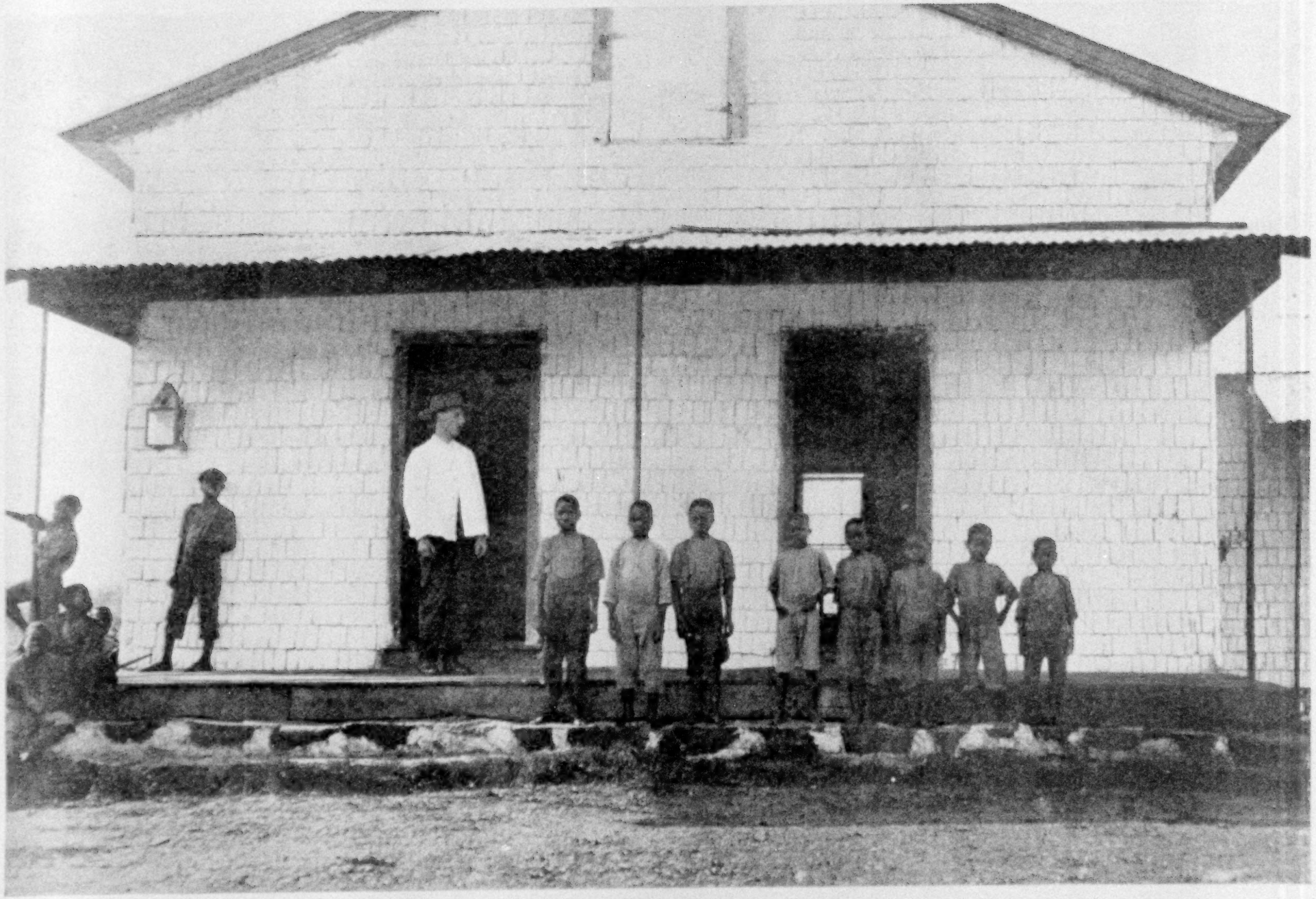


Photo by Edgar Allen Forbes

EIGHT SONS OF ONE NATIVE KING, IN THE LUTHERAN MISSION SCHOOL AT MUHLENBURG, LIBERIA

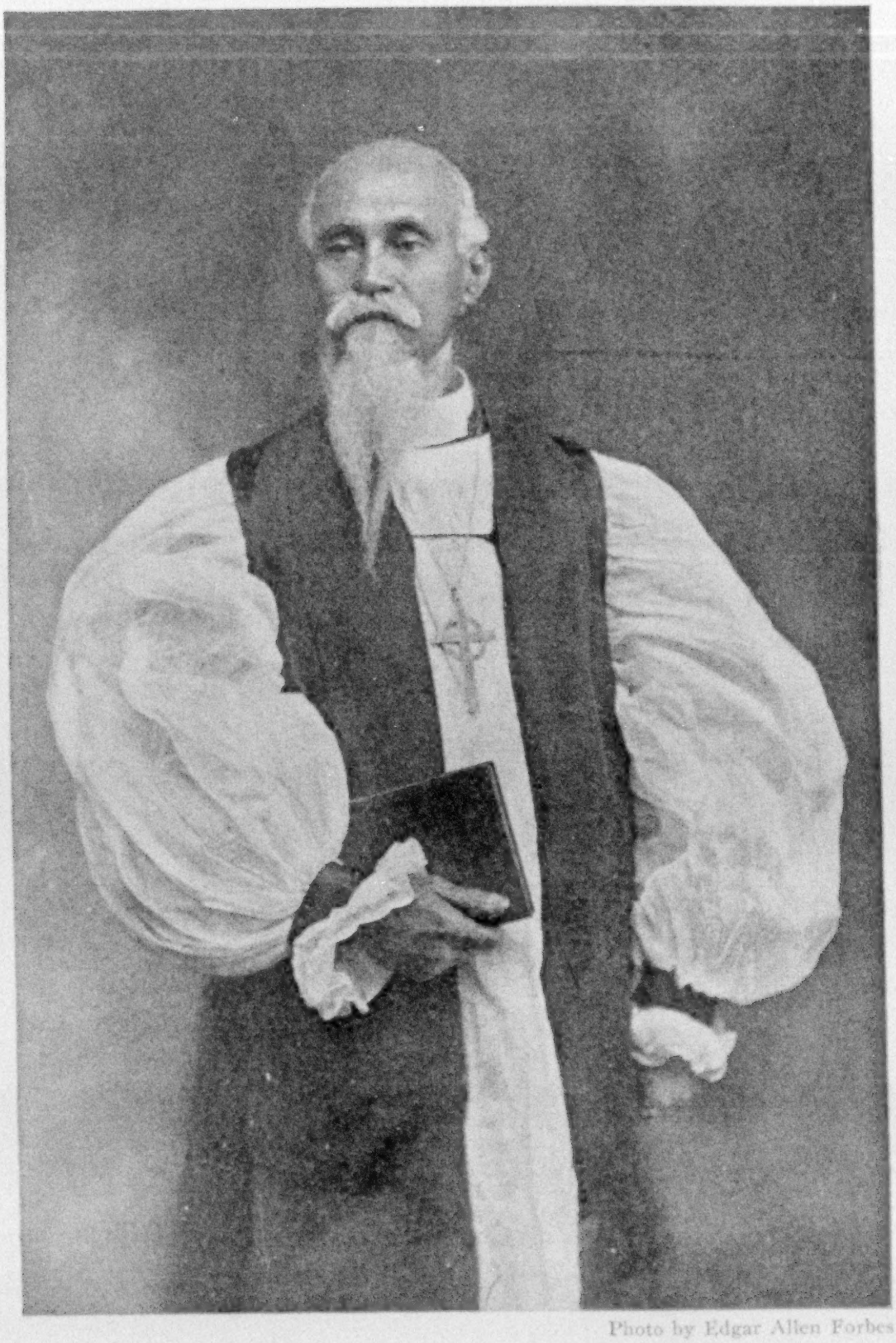


Photo by Edgar Allen Forbes

THE RT. REV. S. D. FERGUSON, EPISCOPAL BISHOP OF LIBERIA

He is a South Carolinian who has spent almost his entire life in Liberia. Although now advanced in age, he is extremely active and has a firm grip on his work. He has trained up a fine body of native clergymen.

national life they have maintained the forms of orderly government. In 62 years they have had 13 presidents, most of whom have been re-elected for one or more terms of two years each, and when changes of administration have been sought they have been sought by constitutional means. While under stress of public opinion one or more presidents have resigned their office, impeachment has been resorted to but once, and revolution not at all.

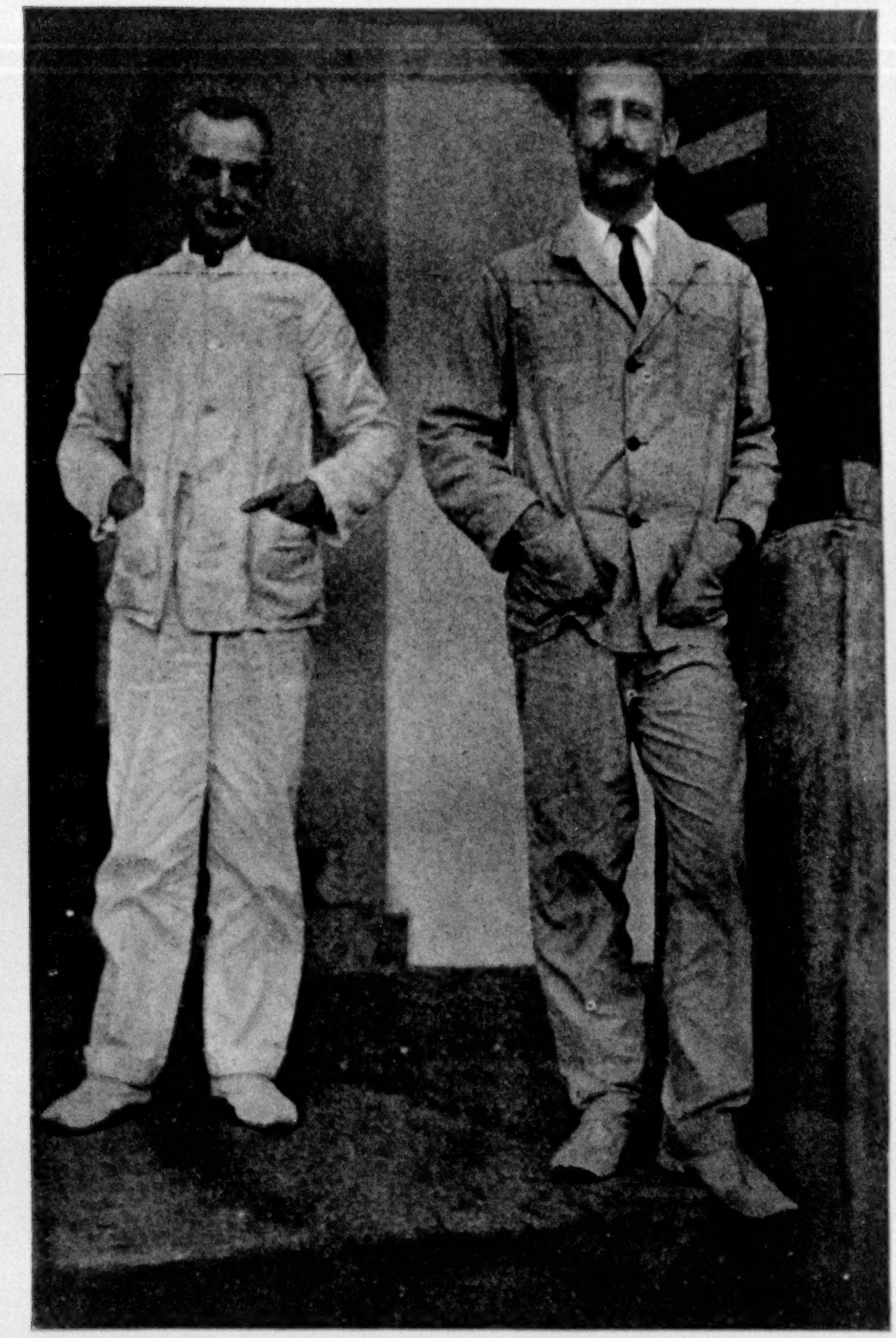


Photo by Edgar Allen Forbes

RECENT BRITISH REPRESENTATIVES IN MONROVIA
The gentleman on the right is Captain Braithwaite Wallis

Despite frequent assertions to the contrary, Liberia is not bankrupt. Much that is crude was discovered in the administration of the fiscal affairs of the republic. The government is embarrassed by its indebtedness and the burdens which it entails. But the national debt of less than $1,300,000 is not excessive, even if we compared it with the present revenues. In contrast to the natural wealth of the country, it is very small. Liberia is not a failure in self-government. It is true that the effective government of the country extends only to

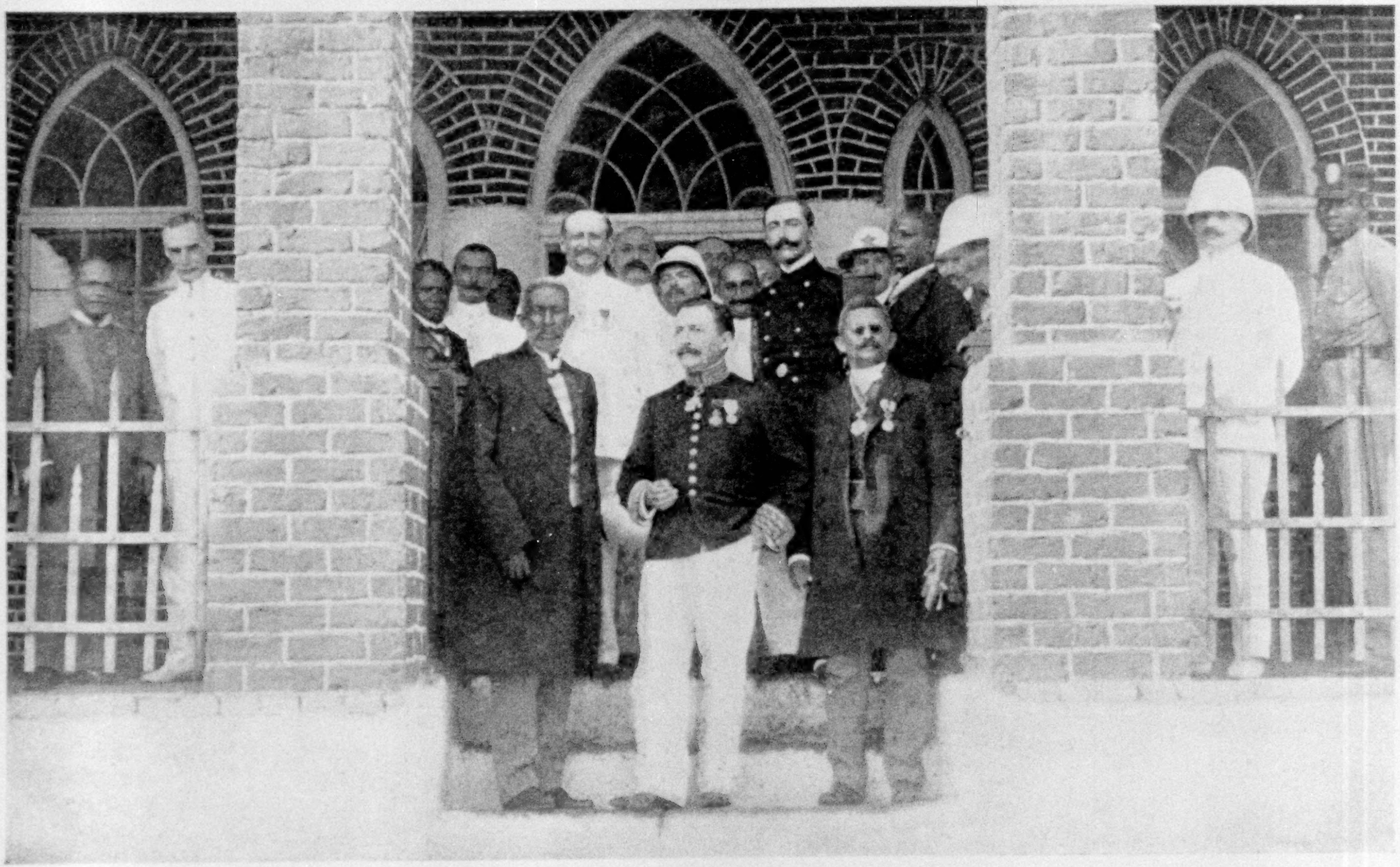


Photo by Edgar Allen Forbes

GROUP OF OFFICIALS ON THE OCCASION OF THE VISIT OF THE GOVERNOR GENERAL OF FRENCH WEST AFRICA TO LIBERIA

the coast towns and settlements along the rivers Saint Paul and Saint John, but in these towns and settlements law and order prevail, life and property are adequately protected, and crime is promptly punished. Peace, good-will, and friendly feeling prevail between these towns and settlements and the native villages immediately adjacent to them.

However crude in many respects the civilization of Liberia may be, the Liberians have advanced, not retrograded, in their civilization. In estimating the progress of the Liberian people it is well to bear in mind their origin. The original elements of the population of Liberia were three: Free negroes sent out by the Colonization Society; Africans rescued from slave traders by the United States war vessels during the period of the suppression of the slave trade; freedmen who emigrated to Liberia since the war.

Out of these materials, guided by the traditions of life in America, the Liberian people have developed a civilization that compares not unfavorably with the better element of the negroes in the United States. It was the conviction of the commission and their associates that the Liberians had influenced the native population by which they were surrounded far more than the natives had influenced them. In the presence of that great mass of uncivilized people they have maintained a relatively high degree of civilization, of which the well-ordered home, the maintenance of law and order, the quiet Sunday rest, and the well-attended houses of worship are conspicuous signs.

It is the larger and more difficult tasks of government which now confront Liberia, chiefly as a result of the partition of Africa by European powers during recent years, which Liberia finds too hard for her. They grow out of the increasing importance of her relations with neighboring countries and the urgent necessity of more effective control and government of the native tribes within her boundaries. It is with reference to these tasks and problems growing out of them that Liberia feels the need of help from a strong power.

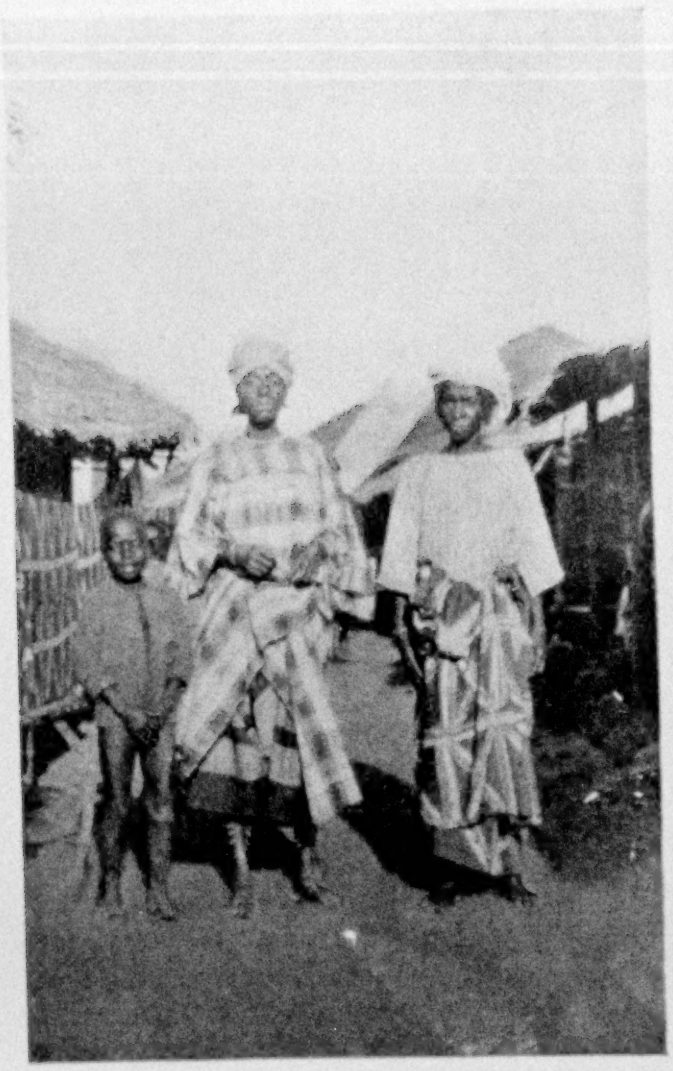


Photo from Captain Cloman, U. S. A.

RESIDENTS OF A VILLAGE NEAR MONROVIA

Specifically these problems are:

1. The maintenance of the integrity of her frontiers in the face of attempted aggressions of her neighbors, against whose might she can oppose only the justice of her claims.

2. The effective control of the native tribes, especially along the frontiers, so as to leave no excuse for the occupation of her territory by her neighbors.

3. The systemization of the national finances so as to render certain the meeting of all foreign obligations and to establish the national credit on a firm basis.

4. The development of the hinterland in such a way as to increase the volume of trade and thus supply the resources necessary for the increasing wants of a progressive government and at the same time enable the government to offer in-

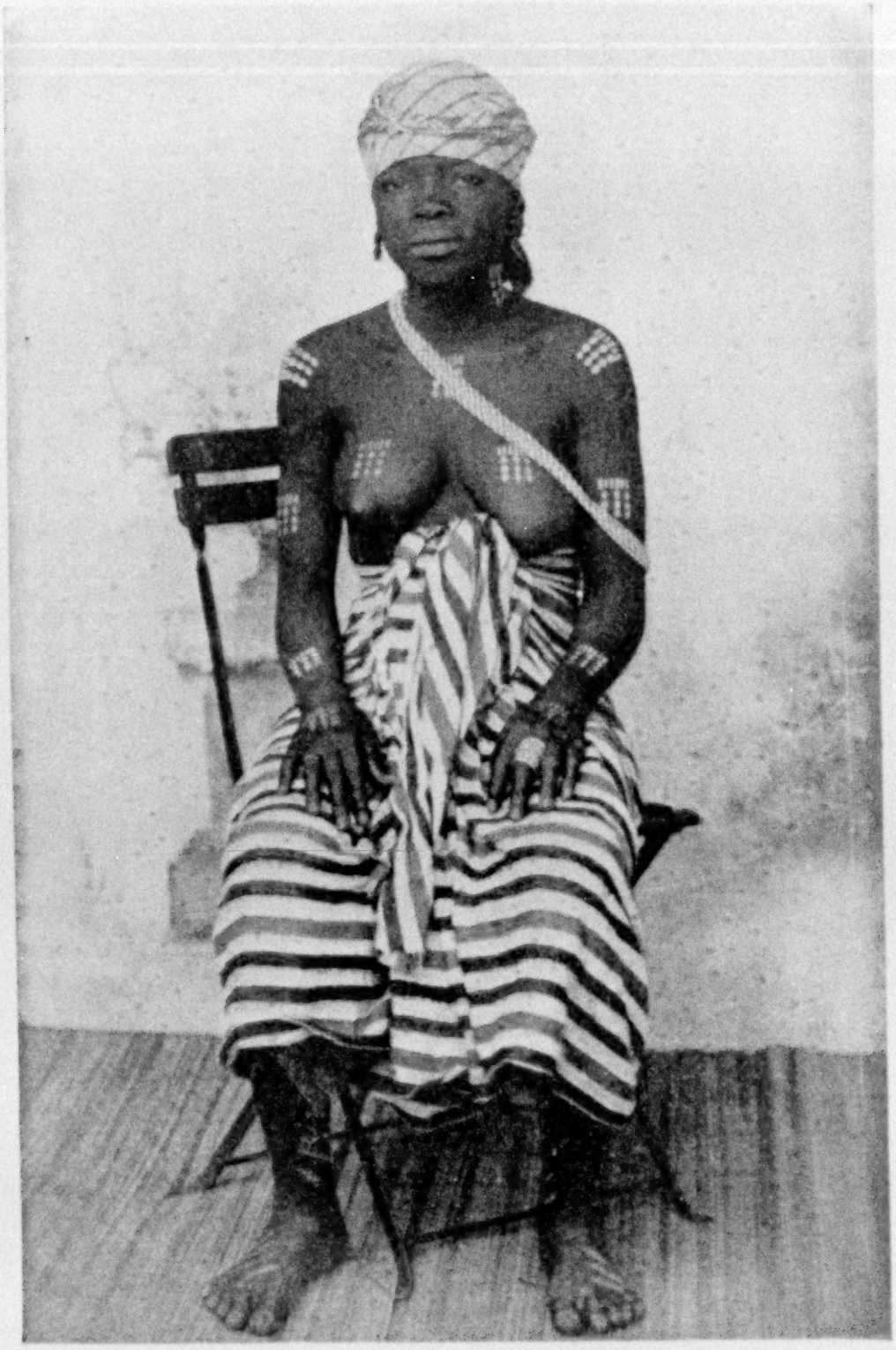
CELEBRATING A HOLIDAY ON THE STREETS OF ACCRA, THE CAPITAL OF THE GOLD COAST COLONY

The Gold Coast, an English colony on the West Coast of Africa extending along the Gulf of Guinea, was discovered by the Portuguese in 1470, taking its name finally from the valuable deposits of gold discovered. This country, rich in gold dust, rubber, palm oil, and ivory, has a soil of great fertility, magnificent mahogany and palm forests, but to the white man a climate decidedly unhealthy. Coming down through the centuries this territory passed through many hands until in 1872 the Dutch ceded their last holdings and the rule of England was recognized as supreme, being named a British Crown Colony in 1874.

XUM

A NATIVE KING AND HIS COUNSELLORS

The coast line of the Gold Coast extends 350 miles, bounded on the north and west by the French territories and on the east by German Togoland, the total area being about 72,500 square miles. Of the many native tribes governed by their kings, the warlike Ashantis and the crafty Fantis stand out; the Ashantis, born fighters, have battled with the English for every foot of their country, and were not finally crushed until 1900. The capital and seat of government is Accra, with a population of about 30,000, the chief port of the eastern part of the coast; the other large towns are Elmina and Cape Coast Castle. The estimated native population of the colony is 1,500,000, with a very small percentage of whites.



A NATIVE KROO WOMAN IN LIBERIA

ducements to desirable emigration from the United States.

Because Liberia has thus far failed in solving these problems satisfactorily she has found herself involved in controversies with foreign nations. These have created an unrest which hampers her internal development and have made her feel that her national existence is threatened by powerful neighbors without and by weakness within.

BOUNDARIES WITH FRANCE

To the north and east Liberia has France as her neighbor. In pursuit of their policy of building up a great West African empire, the French have been a thorn in the side of Liberia. They have

been consistent and persistent in their efforts to increase their boundaries. By successive treaties with Liberia they have deprived that country of territories long claimed by her. France has based its aggressions on the plea that the territory which she had annexed, and then had ceded to her by treaty, was not effectively occupied by the Liberians, and was therefore subject to acquisition by another power.

On the west Liberia adjoins the British colony of Sierra Leone. Even while Liberia was still a colony under the governors appointed by the Colonization Society she had trouble with Sierra Leone. British traders contended that Liberia had no right to impose customs duties, and refused, to recognize her authority in this regard. The question thus raised was one of the main considerations which led to the formation of the republic.

Since Liberia has been an independent nation it has at several junctures been forced to make concessions to the ambitious designs of her neighbor. It is enough to recall the long dispute respecting the west boundary of Liberia, which was finally settled by the treaty of 1885, negotiated in its final stage at the cannon's mouth, whereby Liberia lost to Sierra Leone a considerable coast line to which she had an equitable claim.

The British Foreign Office has protested that Great Britain has no designs on Liberian territory. We find it hard to reconcile this protestation with the acts and attitude of her officials in Sierra Leone and Liberia. Certainly there is no difficulty in understanding Great Britain's declaration that if France is permitted to make successful advances into Liberian territory she will be compelled in her own interests to claim her share.

It makes little difference whether Great Britain is the upper or the nether millstone. Liberia is between the two, and it is the conviction of the commission that unless she has the support of some power commensurate in strength with Great Britain or France, she will as an independent power speedily disappear from the map.

The public schools of Liberia include Liberia College, in Monrovia, for higher education, four feeders or intermediate schools between the college and the lower schools, and the common schools. The college lacks the barest necessities in the way of equipment, and its courses of study scarcely equal those of a high school. The intermediate and common schools suffer for want of school-houses and efficient teachers. Annual appropriations for the support of schools are very small and are paid with much uncertainty. A radical reconstruction of its schools is one of Liberia's greatest needs. So long as the appropriations continue what they are, there can be little hope of the development of a proper system of public education. And so long as the revenues of the country are not materially augmented, there is little prospect that the republic will be able to make larger appropriations for this service. The best educational effort in the country is at the present time under church auspices, and some of the schools maintained by religious organizations are commendable.

Liberia's great source of wealth is her forests, which yield her palm oil, palm kernels, piassava fiber, and rubber. The gathering of these products is the work of natives, who sometimes labor under the direction of the Liberian, but more frequently barter the results of their independent toil with the Liberian or direct with the foreign merchant. Liberia fails to realize the full value of what she exports, because crude and wasteful methods of gathering these products and preparing them for the export trade deprives them of a part of their value.

The chief agricultural export of the Americo-Liberians is coffee. At one time the coffee industry was in a very flourishing condition, but is now stagnant or retrograde. The competition of other countries, notably of Brazil, which has brought to the world's market cheaper and better prepared coffees, has brought discouragement to the Liberian planter,

XUM

whose tiny crop no longer brings him those excellent prices which once rewarded his industry. He has grown listless and careless. He has not studied to adapt himself to the new conditions, and continues to cultivate and harvest the old crop in the old way.

The situation of coffee-growing outside of Brazil is far from hopeless, but planters elsewhere must be content with smaller profits than before and must meet the Brazilian competition by placing their product on the market in the best possible shape. Crude and antiquated processes prevail in Liberia, and it has done little to meet these conditions.

Liberia has little more than scratched the surface of its soil in a very small portion of its area. While not an extensive country, it is very inaccessible for lack of proper means of communication. Rivers are navigable for a short distance from the coast only before rapids are reached; rough roads in the civilized settlements and forest trails and paths in the interior country are the only avenues of communication. Wheeled vehicles are almost unknown, and, except for some water transport as the coast is neared, all the trade which flows from the interior comes upon the backs and heads of native carriers.

This woeful absence of means of communication restricts greatly the area in which trade can originate, as well as minimizes the influence of Monrovia in the interior and presents great obstacles to the effective control of interior points.

The difficulties of communication in the interior do not result from the topographical configuration of the country, but rather from the absence of highways through the forest country. As a result, the interior of Liberia is as little known to the Liberians themselves as to the world at large. What its extensive forests may be able to produce, what stores of wealth lie hidden in them, what value the cleared land would have for agricultural purposes they simply do not know.

A still further difficulty in the way of Liberian commerce is the want of harbors and the consequent difficulties of shipping goods. When produce has with great labor been brought to the coast towns, there still remains the task of shipment. This, on account of the shallow water on the bars at the mouths of the rivers, is a costly and often dangerous task.

There is every reason to believe from the natural fertility of the soil and the luxuriance of its vegetation that the country has great possibilities. But a more accurate knowledge must be had before they can be developed into fruitful sources of national wealth.

To the difficulties here enumerated must be added the lack of interest in industrial pursuits. The people are largely engaged in governmental and commercial pursuits. Trades and industries languish. Most of the skilled workers in Liberia are said to be from Sierra Leone. Nearly all manufactured articles are imported. While Liberia will never perhaps become a manufacturing country, greater attention will be necessary to the development of trades and industries before a high order of national thrift can be secured.

In the present economic condition of Liberia the commission is quite unable to recommend to the American negro any extensive emigration to that country. It believes that there is a field there for a large body of civilized negroes, but is equally certain that under existing conditions the emigrant who carries thither little beside his physical strength and his willingness to work out his own salvation would encounter little but hardship at the outset, and but a slim prospect of founding a comfortable economic existence for himself and his family. Liberia has much to do before it can offer tempting prospects to the would-be settler.

Its laws concerning immigration are fairly liberal and fairly intelligent. But its execution of the laws has fallen into disuse. One can imagine no greater embarrassment for the Liberian authorities than the unannounced arrival on their shores of a company of 200 or 300 immigrant laborers. If we can trust the statute books, land they have in abun-

dance, but it is unsurveyed, it is inaccessible for lack of roads, and covered with a dense forest growth.

The Liberians know too little about their own country and understand too little how to develop its resources to be able to render any assistance to immigrants. A systematic study of the resources of the country; a knowledge of its products and the best methods of gathering them; a knowledge of the possibilities of its land and how it can best be brought under cultivation; the construction of at least one good road into the interior, where better lands and more salubrious climate for man and beast are found—all these are necessary before Liberia can begin to offer inducements to immigrants. Liberia has neither the means nor the knowledge to enable her to prosecute such an effective study of her own country. No greater service could be rendered than to undertake for her such a study of her country as would enable Liberia to find herself economically, to enter into her own heritage, and to open hospitable doors to desirable immigrants from the United States.

Among its recommendations, the commission urges that the United States should establish and maintain a research station in Liberia.

The object of such station should be the scientific research of the natural phenomena of the country, the development and preservation of its sources of wealth, the effect of climate on health, and the causes, treatment, and cure of tropical diseases.

The United States has already in its brief career in the tropics made researches and discoveries which have enriched the world's knowledge of tropical conditions. It is to be anticipated that were a well equipped station established in Liberia, there would be further fruits of research which would redound to the credit of the United States. It would afford to the American student an opportunity for study of the natural products of the continent of Africa in one of its least explored and probably richest parts.

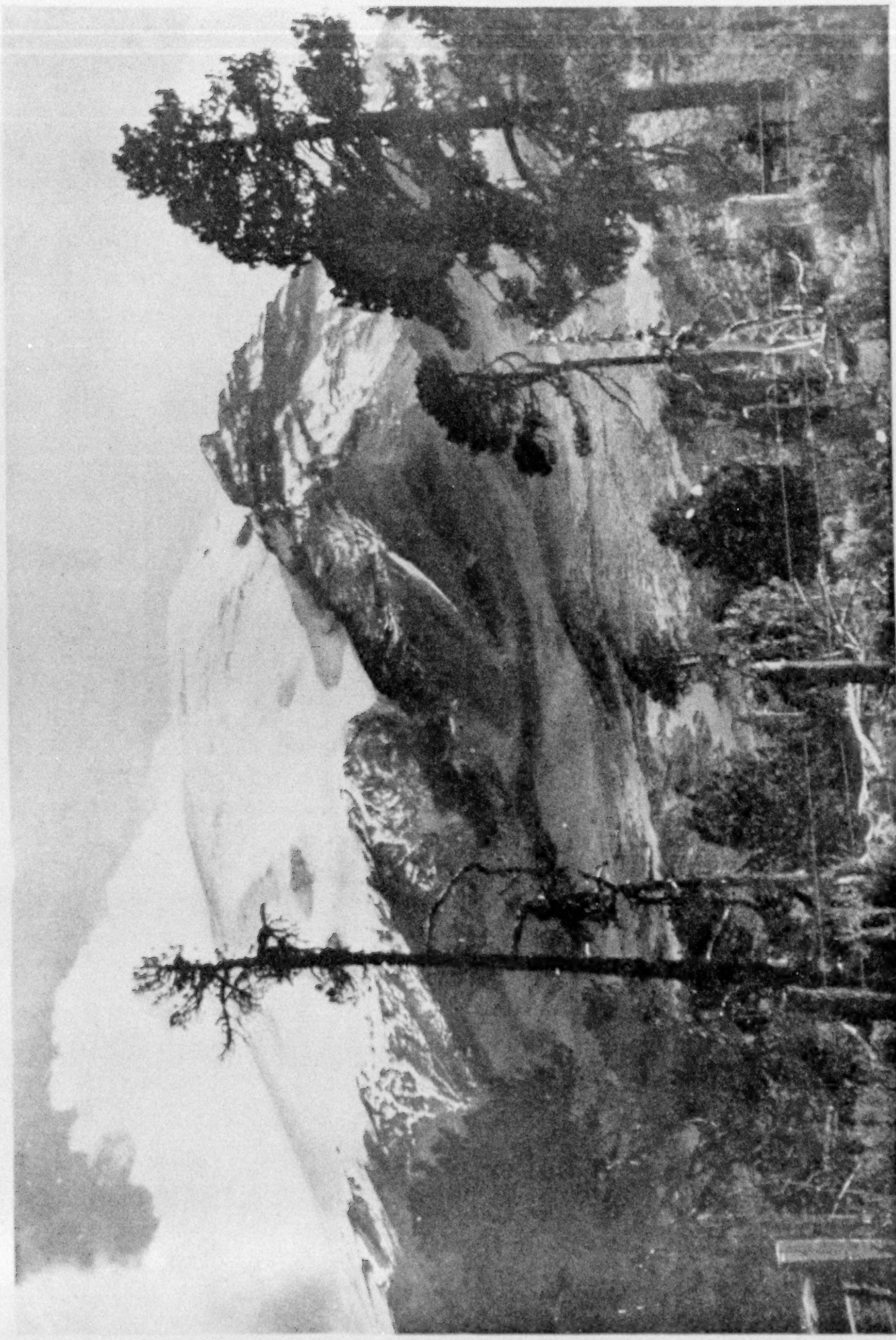
Nor is it to be overlooked that such a station would in a few years acquire a vast store of information for the instruction and direction of immigrants from the United States. Under favorable conditions Liberia can offer great advantages to our negro fellow-citizens. Until, however, the necessary information regarding the country can be placed before would-be immigrants in some systematic and effective way, attempts on the part of American immigrants to make a home in Africa must be attended with great probability of disaster.

THE GREATEST VOLCANOES OF MEXICO

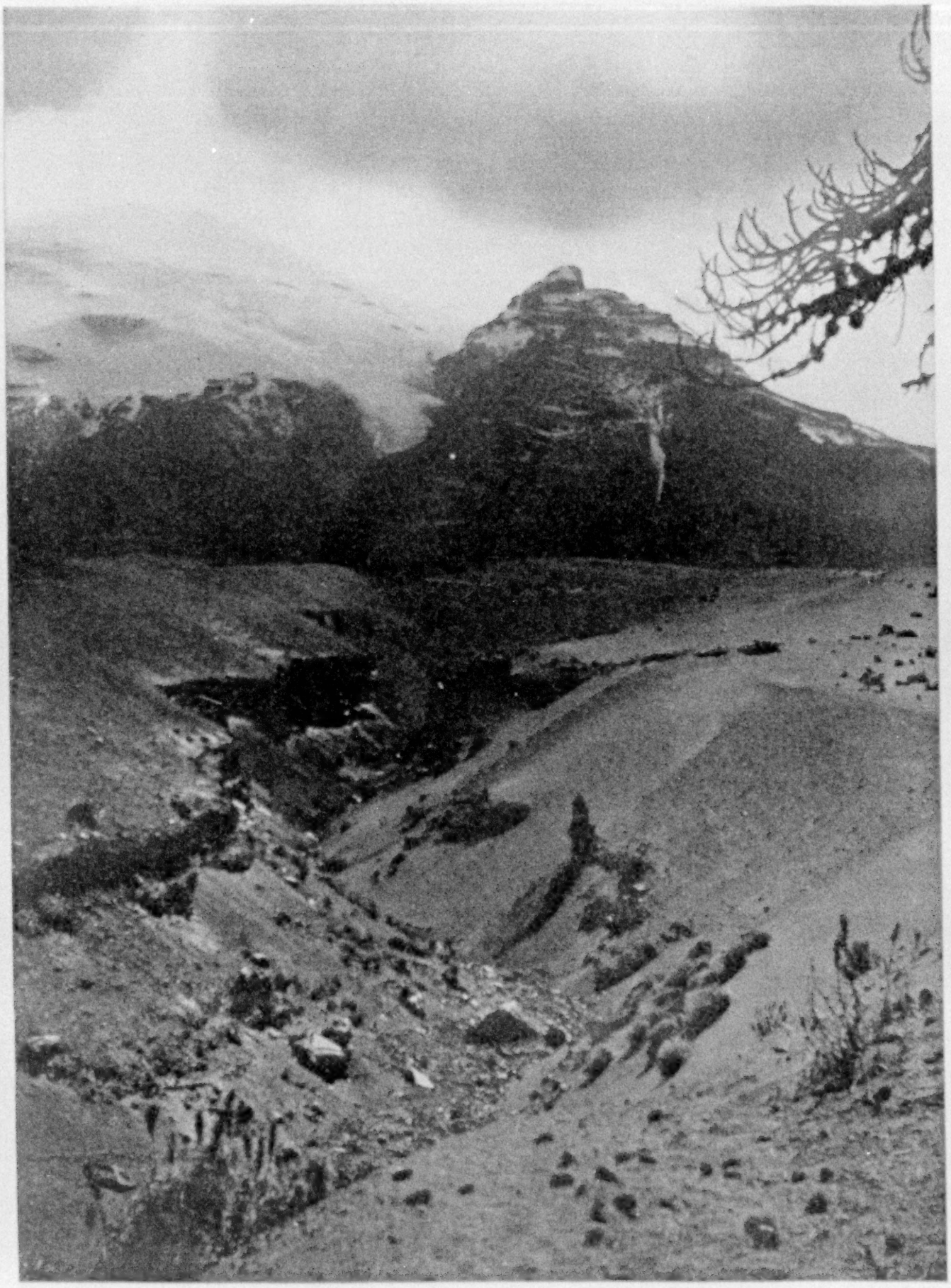
With Text by Mr A. Melgareio, of Mexico City, and Photographs by S. L. Wonson, of Boston

POPOCATEPETL, the "Smoking Mountain" of the Aztecs, has only one superior in height on the North American continent—Mount McKinley, in Alaska—and only one rival, Mount Orizaba. In beauty it has few equals on earth. The Alps, the Himalayas, the Andes, and other of the great ranges present, without doubt, peaks of great beauty or peculiar formation, but few show the charming contrast of landscape peculiar to Popo, as the mountain is known locally. Its well-wooded slopes and foothills, the cultivated plains at its feet, with their patches of mellow green and yellow, its ravines and canyons and the lakes below are like a frame to its immense cone of reddish rocks, black sands, and its beautiful cap of white. The many towns and ranches around it and the railroads running at its base give it a peculiar "homelike" look, much dif-

NO. I. POPOCATEPETL, "THE SMOKING MOUNTAIN" OF THE AZTECS



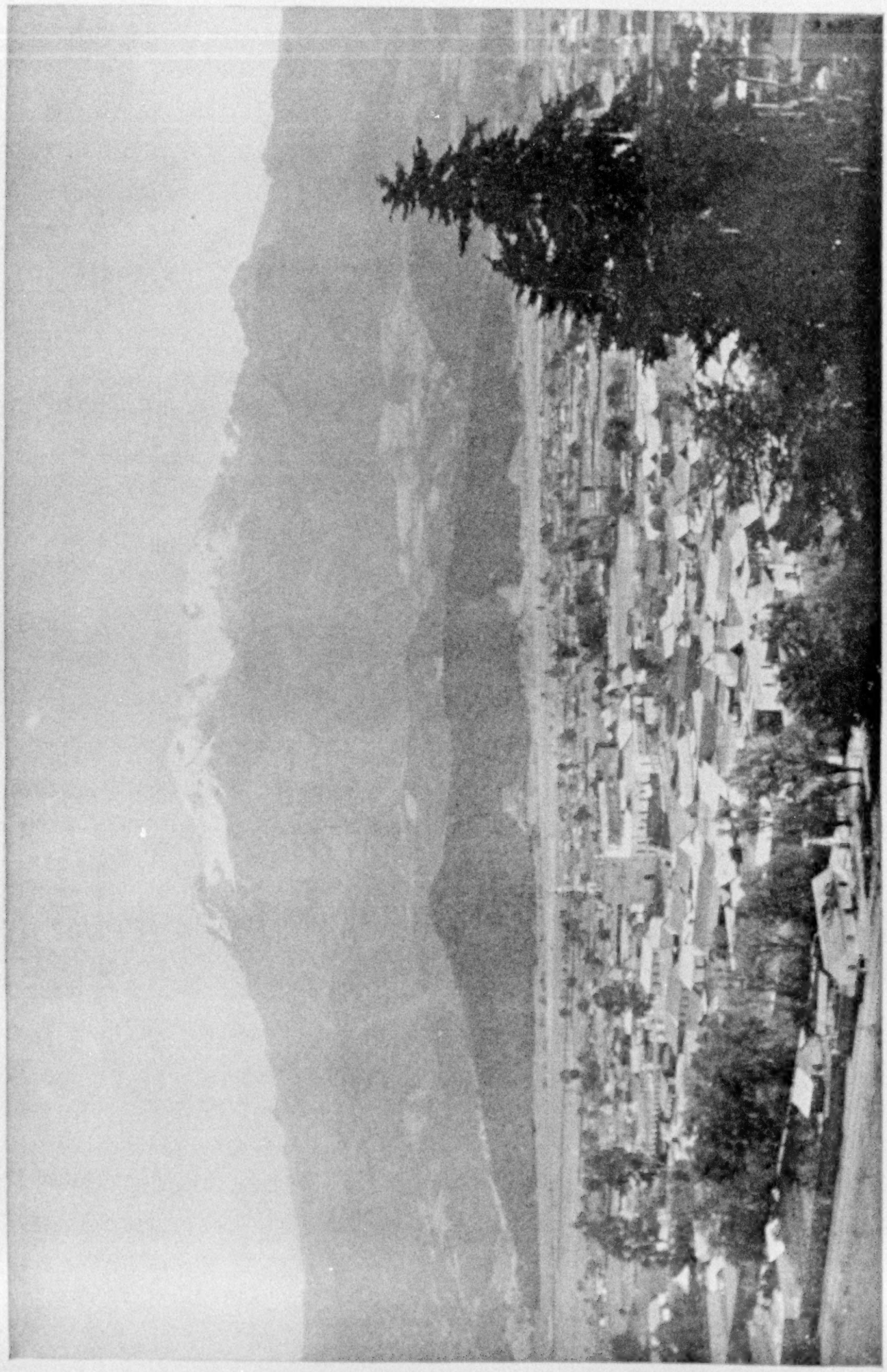
NO. 2. VIEW OF POPOCATEPETL FROM THE HALF-WAY HOUSE



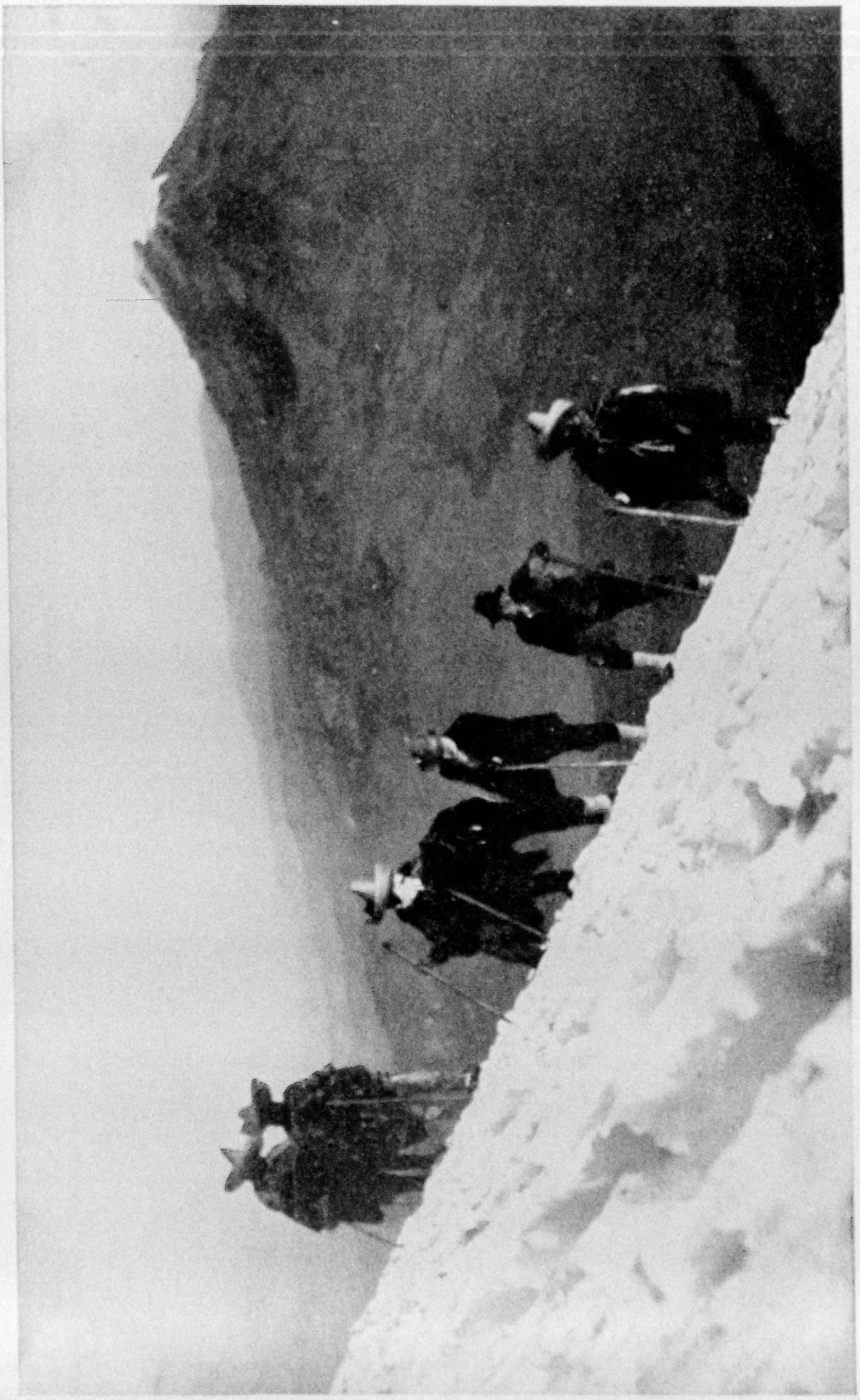
NO. 3. THE FRIAR PEAK OF POPOCATEPETL

NO. 4. THE VERTICAL WALLS OF THE IMMENSE CRATER OF POPOCATEPETL

The crater is more than one-half mile wide and one-half mile deep

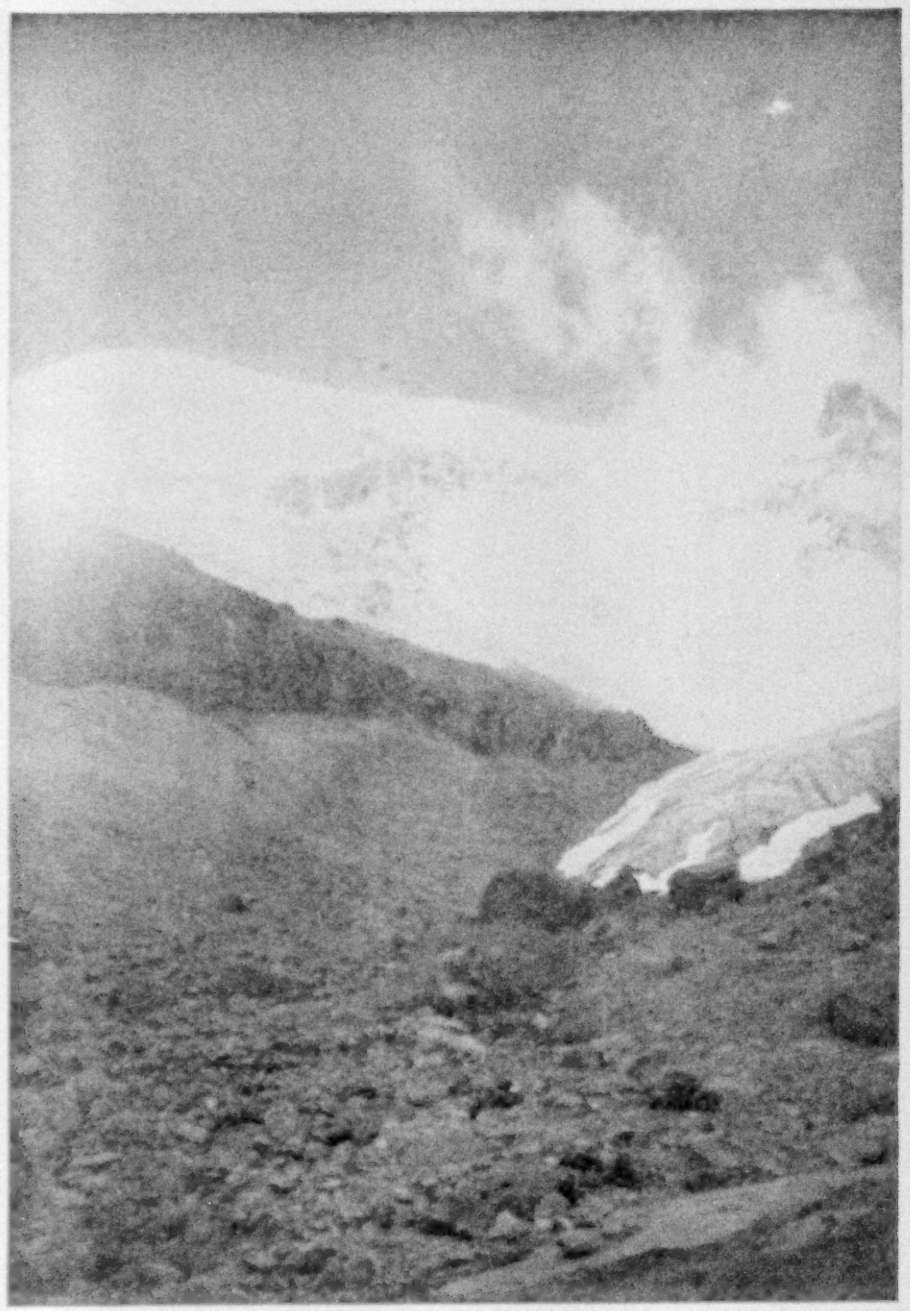


NO. 5. "THE WOMAN IN WHITE"



NO. 6. VIEW OF "THE WOMAN IN WHITE" FROM THE RIM OF POPO'S CRATER

NO. 7. THE STEEP SLOPE OF IZTACCIHUATL



NO. 8. THE CRATER OF IZTACCIHUATL

NO. 9. THE PICTURESQUE COSTUMES OF THE GUIDES

ferent from the majestic wilderness of the average large mountains.

Easily accessible, it is often climbed. It is only a pity that lack of enterprise should so far have prevented the building of observatories at its summit, or even proper accommodations at its base for the mountain climbers.

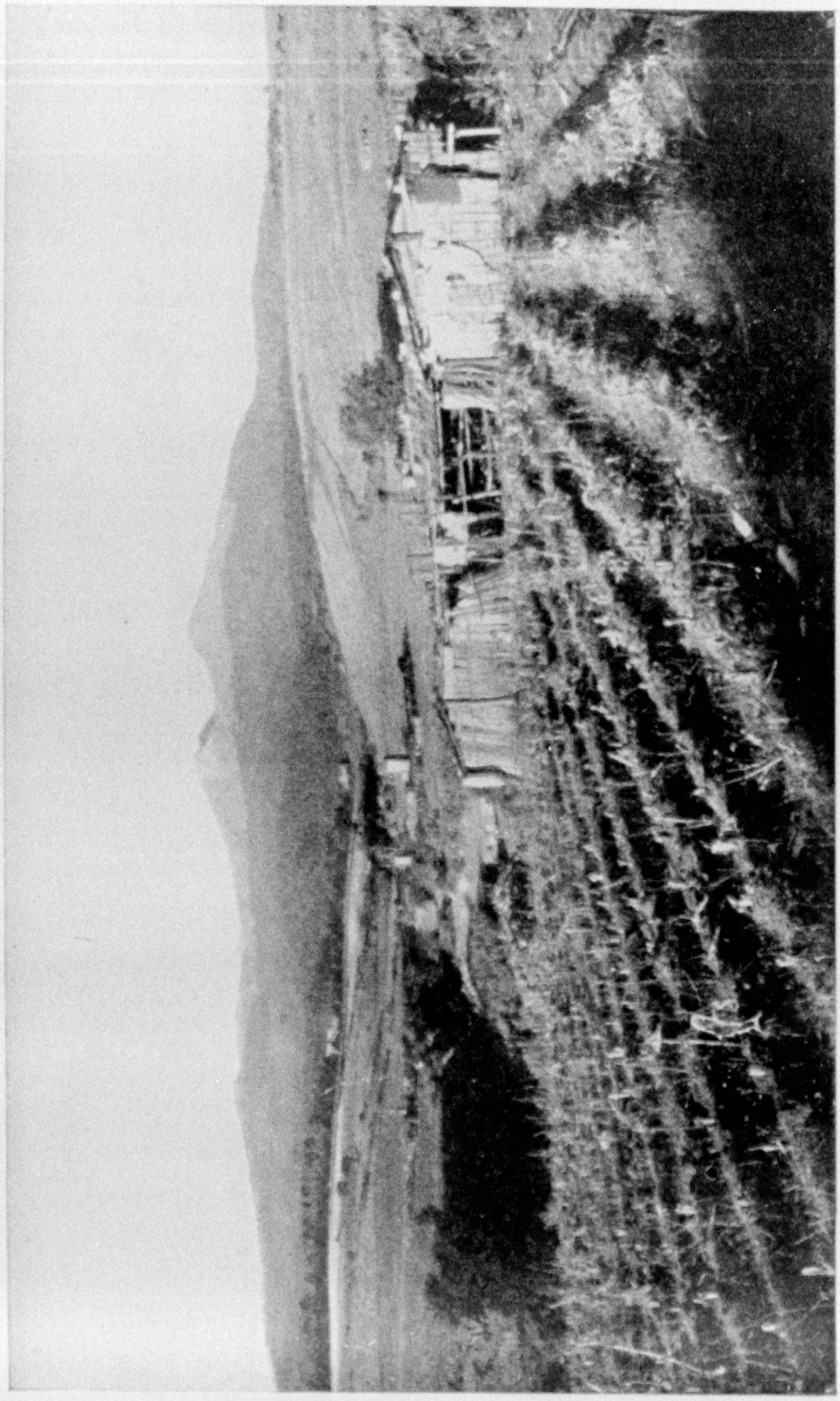
Photo No. 1. Popocatepetl, with a heavy mantle of clouds, as seen from the summit of Iztaccihuatl. The opening of Popo's crater is plainly visible.

Photo No. 2 of Popocatepetl, 17,520 feet high, was taken from the half-way house, at Tlamacas ranch, at an altitude of about 11,500 feet. The peak on the right, "El Fraile," is about 15,000 feet high. Its brick-red, vermilion, and black rocks contrast with the glistening white cone above and the slopes below, which, covered with a layer of many feet in thickness of fine volcanic dust of a grayish black, give the mountain a quaint "velvet" look.

The half-way house, now an abandoned shack, some 25 years ago served as a storage house for the sulphur smelter installed at this point. All sulphur taken from the crater at that time was refined here, being native and of easy treatment.

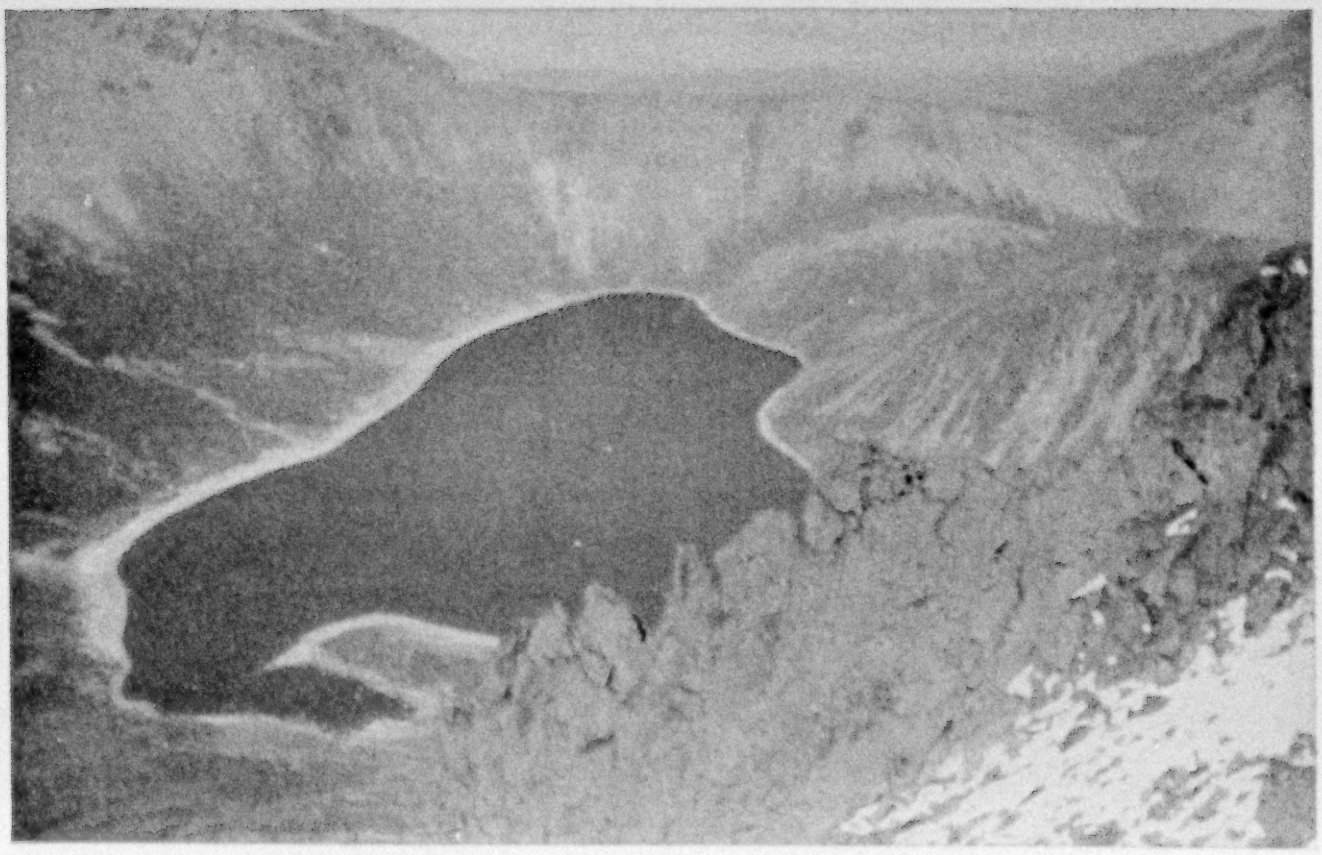
Photo No. 3. "El Fraile" (The Friar) peak. About 15,000 feet. It offers opportunity for the most difficult alpine climbing. Below is seen the beginning of a great gulch, showing on its sides the extremely fine volcanic dust.

Photo No. 4. The south and western walls of the crater of Popo. The highest point shown on the left is the summit of the mountain, 17,520 feet above sea-level. Along these walls are numerous steam vents. At the foot of the walls on the eastern side are located the sulphur vents, from which thick white sulphur smoke constantly issues, and whence the native sulphur is taken. The crater, from the highest point seen to where the camera stood, its widest part, is estimated to be over 2,700 feet in diameter, being almost round in shape. Its depth to the lowest point visible is about 900 or 1,000 yards.

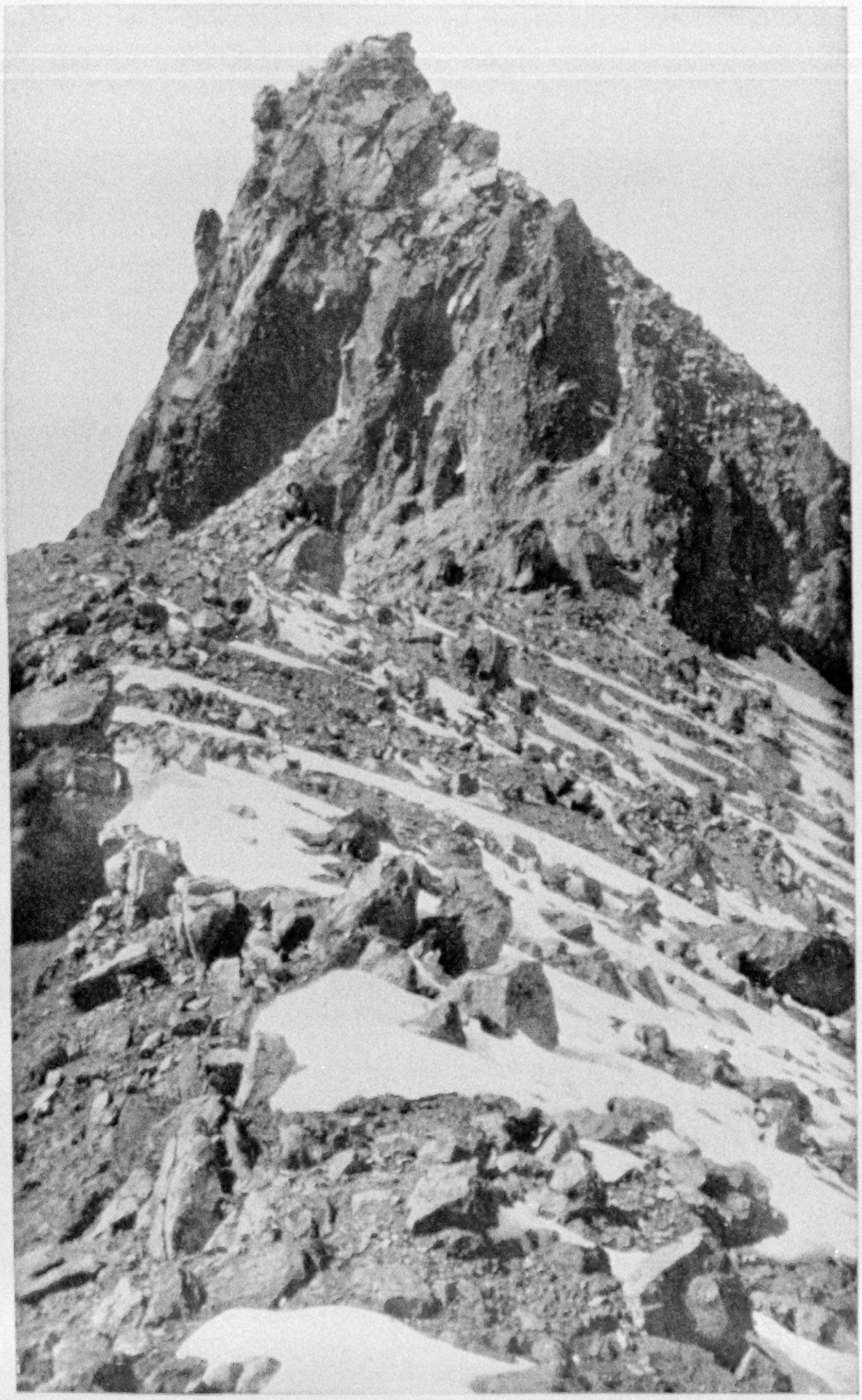


NO. 10. THE VOLCANO OF TOLUCA, OR "THE NUDE MAN"; NOTE THE HUGE CUP OR CRATER

NO. 11. VIEW OF THE GREAT CRATER OF TOLUCA



NO. 12. THE LAKE IN THE CRATER OF TOLUCA



NO. 13. THE HIGHEST PEAK OF TOLUCA

NO. 14. THE WHITE SURFACE IN THE FOREGROUND IS NOT WHITE, BUT SULPHUR CRYSTALS; ORIZABA

Photo No. 5. Iztaccihuatl, "The Woman in White," is the fitting companion of Popo. Its resemblance to a human form is remarkable, and the rugged, abrupt sides are in marked contrast with the graceful lines of the snow-covered body. It is located about 10 miles directly north of Popo and about 40 miles east of the city of Mexico. It rises to 15,082 feet above sea-level at its highest point, being, as will be seen from the above photograph, oblong in shape. Amecameca, the base of supplies, where horses, guides, etc., are obtained, and from where the start for the climb to both Popo and Iztaccihuatl is made, is seen in the foreground.

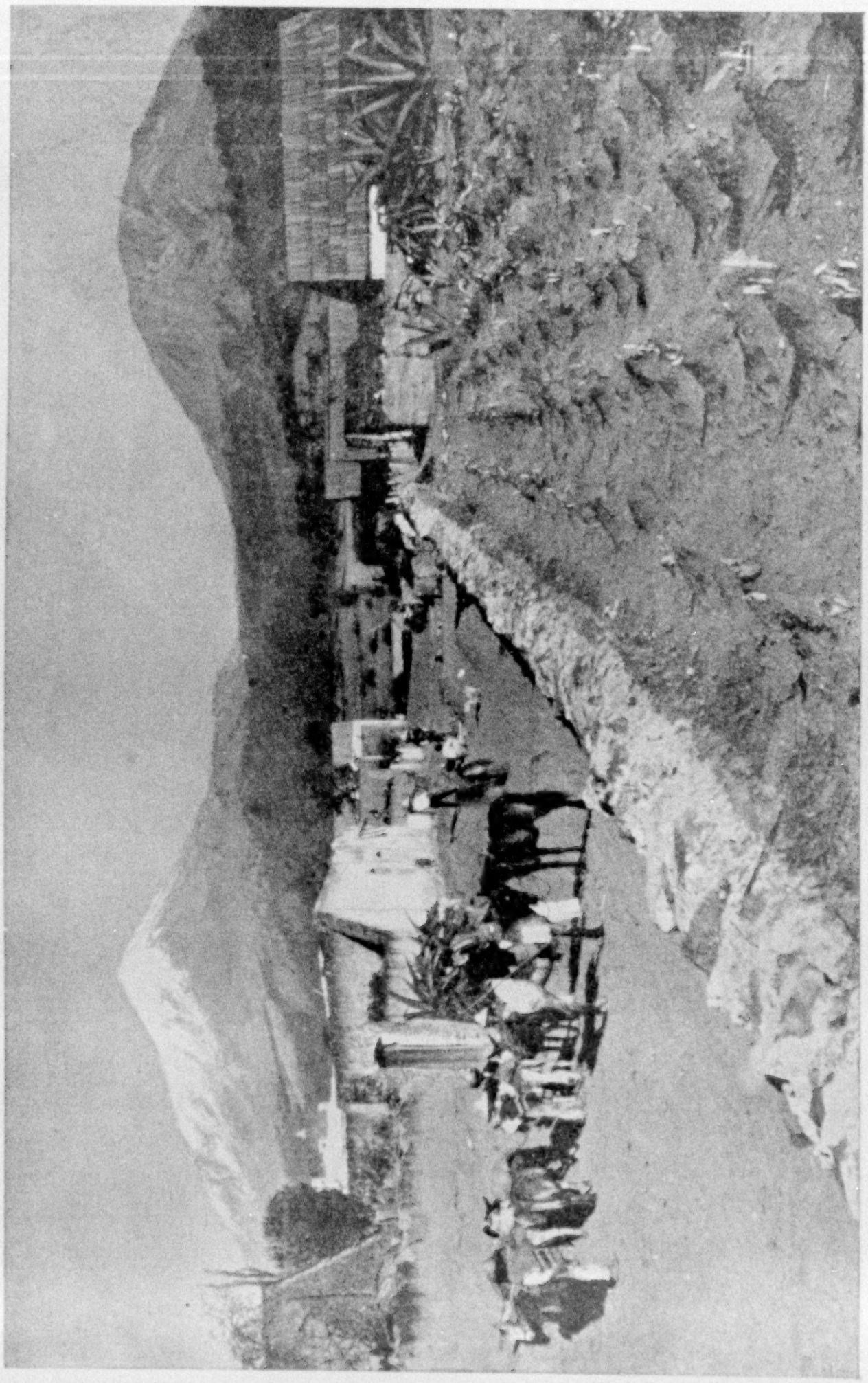
Photo No. 6. Iztaccihuatl, seen from the rim of Popo's crater. What appear like patches of grass on the sides of the mountain are in reality forests of the largest trees.

The great superstition of the natives has made them give all the rocks and peaks religious names.

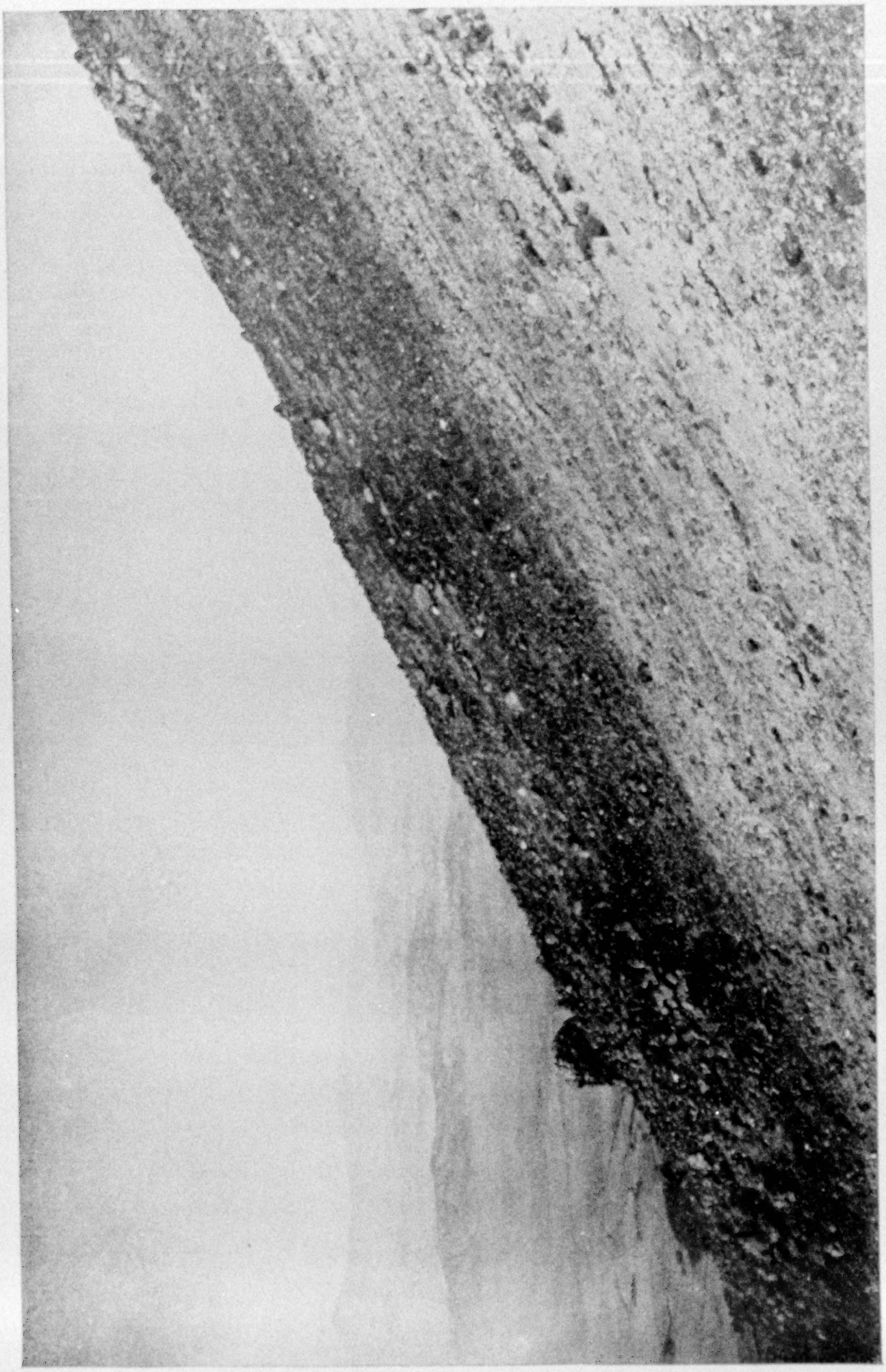
Photo No. 7. M. Rossi and guides. Showing the steep but even slope when heavily snowed.

Popocatepetl, although considered an extinct volcano, is in reality only dormant, as is proven by its great sulphur and steam vents. However, its great eruptions date as far back as 1548, and the last were recorded 108 years ago, in 1802. Iztaccihuatl is entirely extinct, its activity having ceased since the 17th century, and it is a matter of doubt whether it was then really active.

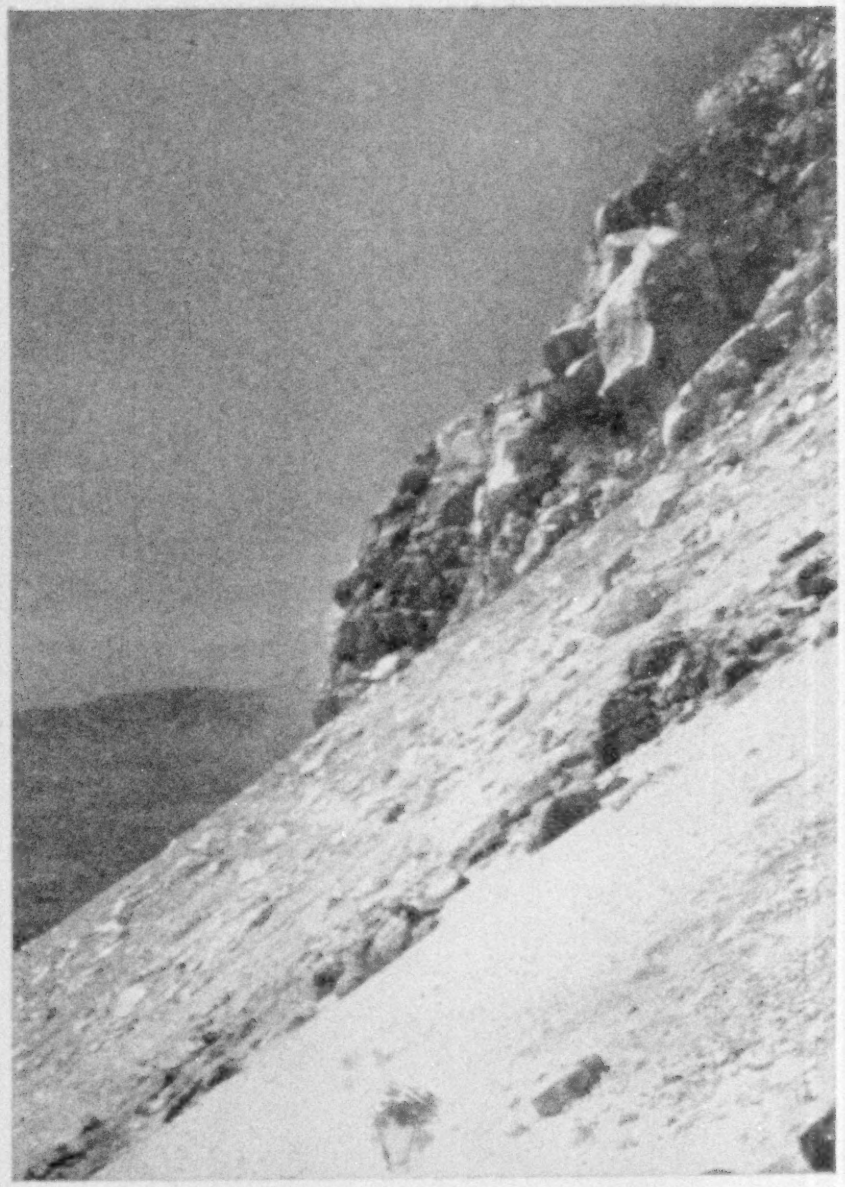
The mean altitude of the plains surrounding both mountains is about 7,500 feet, so that their absolute height above the valley is 8,000 feet for Iztaccihuatl and 10,000 feet for Popocatepetl. They form a more or less isolated chain, the so-called valley of Mexico lying on the west and the Puebla Valley on the east. North of Iztaccihuatl the plains are conspicuous, and south of Popocatepetl a great depression occurs, reaching to the "hot country," thus allowing a magnifi-



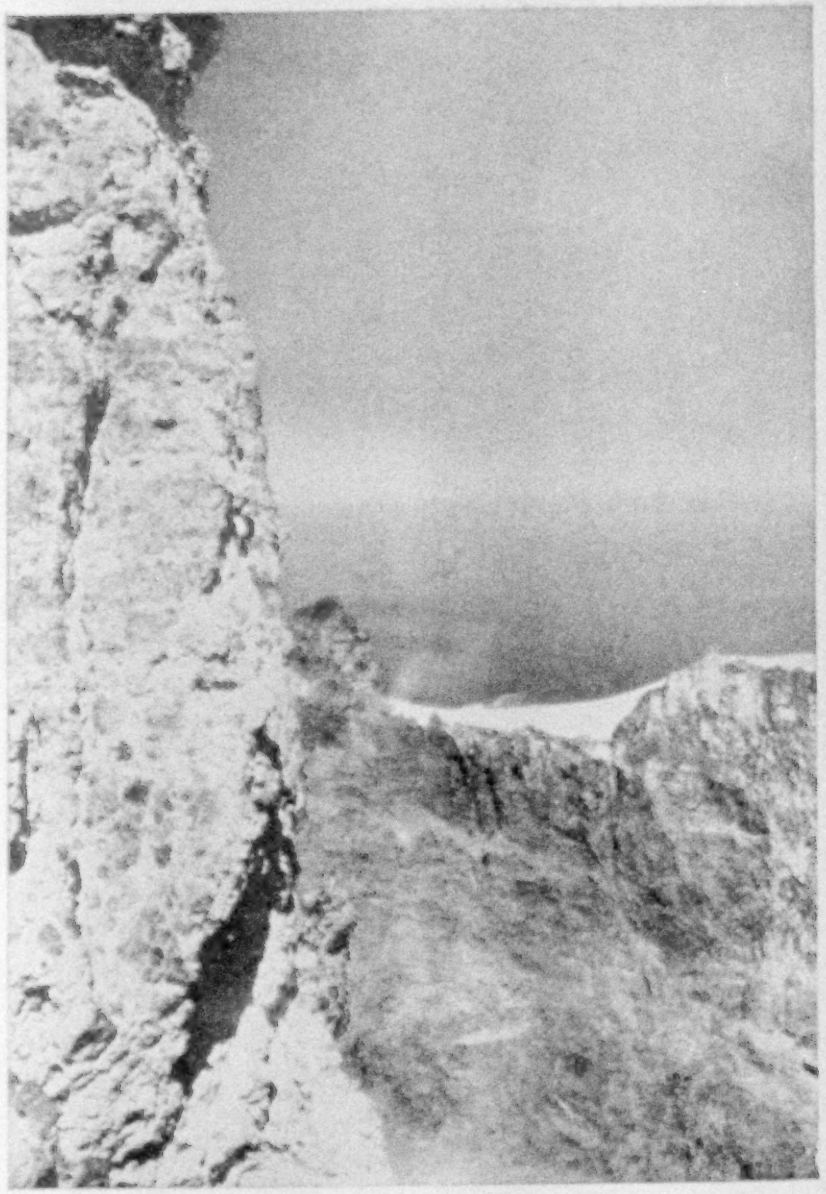
NO. 15. ORIZABA, "THE SHINING STAR"



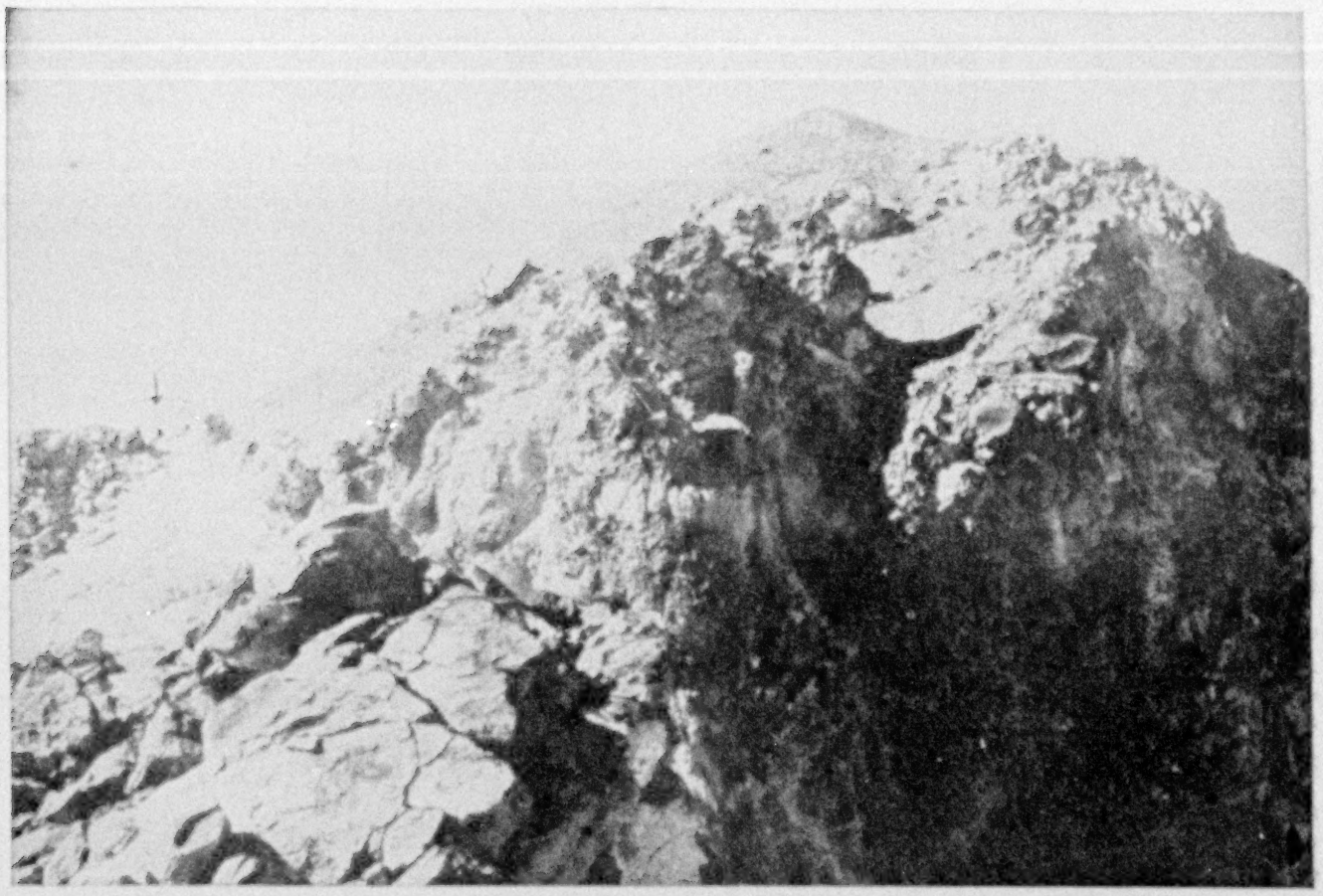
NO. 16. VIEW FROM THE SLOPE OF ORIZABA, SHOWING POPOCATEPETL AND IZTACCIHUATL, 20 MILES AWAY



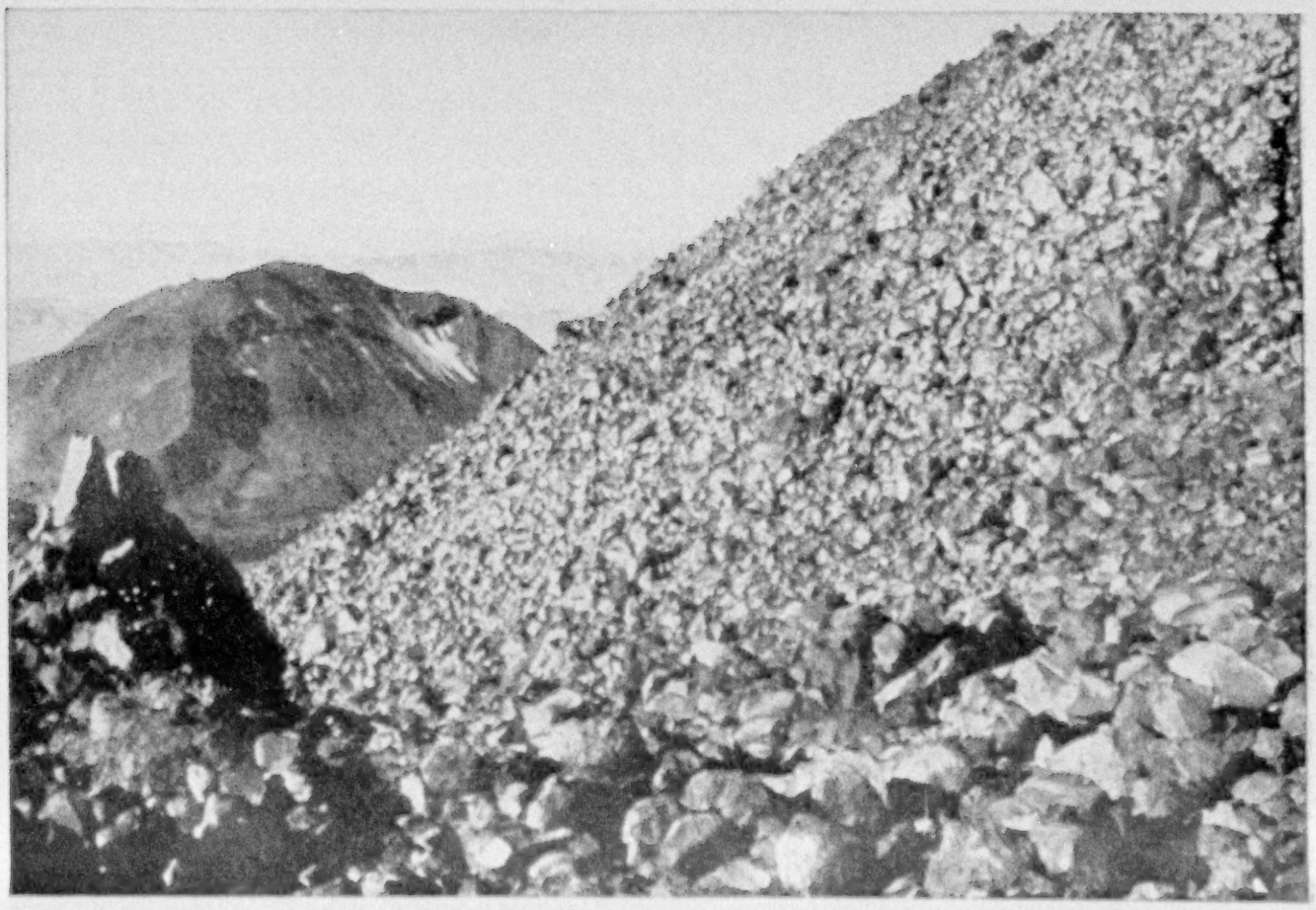
NO. 17. A DIFFICULT PIECE OF ROCK TO BE SURMOUNTED: ORIZABA



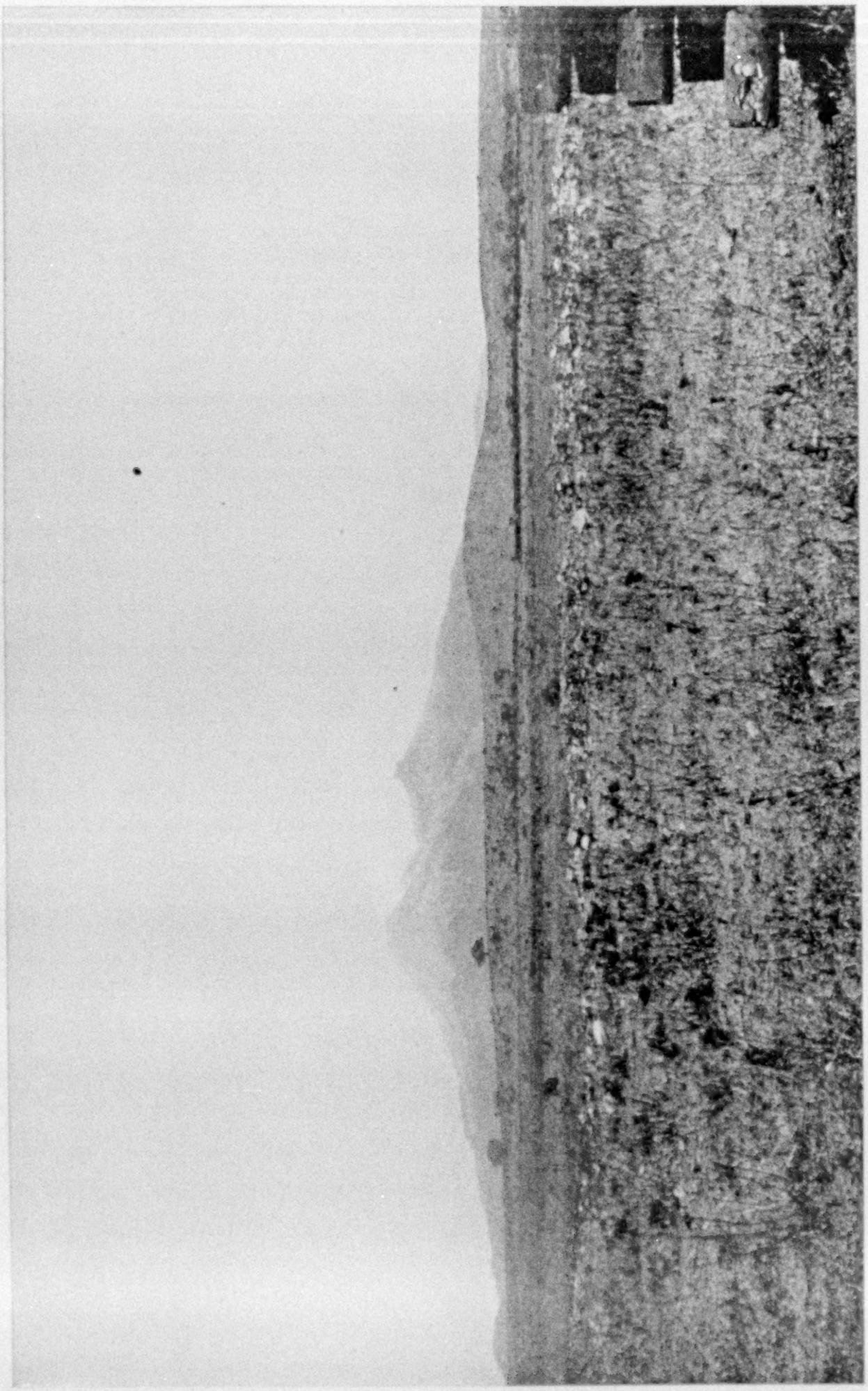
NO. 18. THE CRATER WALL: ORIZABA



NO. 19. THE SUMMIT OF ORIZABA, WITH THE CRATER EDGE IN THE FOREGROUND



NO. 20. TYPICAL VIEW OF THE SLOPES OF ORIZABA, BELOW THE SNOW LINE



NO. 21. THE VOLCANO OF COLIMA IN ERUPTION

The heavy clouds seen above the mountain are of smoke issuing from the crater. Photo by De Loe

NO. 22. THE ACTUAL "TOP" OF ORIZABA IS ABOUT 2 OR 3 FEET SQUARE

cent view of both mountains from the lands at an altitude of 5,000 feet and lower.

Photo No. 8. What was presumably Iztaccihuatl's crater, now filled in and covered up. The hump on the left, snow-covered, is one of the "breasts" of the mountain.

Photo No. 9. Mr A. Melgarejo at the snow line, about 13,500 feet. Showing the picturesque but cumbersome costumes of the guides. Under the worst conditions a pick and shovel are sufficient to insure a safe climb.

Photo No. 10. Xinantecatl, "The Nude Man," or Volcano of Toluca, lying about 30 miles southwest of the city of Toluca and about 90 miles west of Popocatepetl. The photograph, taken by Mr S. L. Wonson, shows plainly the great wide crater of the volcano, as well as the limit of vegetation, about 13,000 feet above the sea. The highest peak of this mountain, the dark, sharp peak on the left-hand side of the crater, rises to 15,055 feet. Its well-wooded slopes are magnificent cattle ranges on the side shown and good game preserves on the other side, the whole mountain furnishing first-class timber.

This is one of the oldest volcanoes in existence, there being no record of its eruptions, which, to judge from the size of its crater, must have been terrific. The ascent up to the interior of the crater is extremely easy, being done on horseback from Calimaya, a small town located northeast of the mountain, about 15 miles from the crater.

Photo No. 11. A general view of the interior of the crater. The foreground shows one of the two lakes which the crater contains. The largest of these two lakes lies behind the hill seen in the middle of the crater. On the left, above the snow, appears the highest peak. See photo No. 13.

Photo No. 12. General view of the great lake, which measures about three-quarters of a mile in length by about half a mile in width. Its waters are perfectly clear, and, due undoubtedly to the depth of the crater, as blue as the ocean. This reservoir must, through

its underground ducts, feed a large number of the streams at the base and sides of the mountain. Aside from this rippling lake, there is no sign whatever of life in this immense crater of Toluca.

Photo No. 13. "El Aguila." The highest point on Toluca's volcano, 15,055 feet above sea-level. After a leisurely ride from the plains below, the ascent to this peak is accomplished after a rough scramble of about two hours, its altitude above the level of the lake shown in photo No. 12 being only about 700 to 800 feet.

Photo No. 14. The author and guides at the crater's edge. The ground in front of the group is made of limy material as white as the snow in the background. Here is where the sulphur is picked, the entire surface being covered with layers of sulphur crystals.

Photo No. 15. Citlaltepetl, "Shining Star," or Peak of Orizaba, about 60 miles northwest of Vera Cruz, on the Gulf coast, 18,240 feet above sea-level. Located at the edge of the plateau, it rises 10,500 feet above the plains on the west, its eastern slope, extremely rugged and broken, running all the way to sea-level. All the big ranges being below the plateau, it stands alone with imposing majesty. Its shining cone is visible 80 miles out at sea, long before the land has come into view.

Its crater has the most irregular shape, very broken and jagged, and is smaller in diameter than Popocatepetl's, but about as deep as the latter's. Sulphur appears in crystallized form in layers at the crater's edges mixed with impurities of all sorts. Aside from some small steam vents, the crater shows no signs of life. However, from the fact that the cone is so well preserved and its proximity to the sea, it is not regarded as a dead volcano, but rather as a young one which may yet become active.

This photo was taken from the town of Chalchicomula.

Photos 16 and 20 show the general character of Orizaba on the side where the ascent is made. This being the southwest side, it is exposed to the sun's rays and to the warm south winds, which, melting the snows quickly, cause the running water to undermine the loose rocks, and, due to the great inclination of the mountain sides, these fall continually in avalanches, hewing the mountain. The north side presents the opposite appearance—that of a hump eternally covered with snow, as, due to the geographical position of the mountain, the sun seldom shines on that side. The ascent over these loose rocks is greatly fatiguing and slow.

Photo No. 16, where the arrow appears, on the left, shows Popocatepetl and Iztaccihuatl in the distance, 90 miles away, and to the right, in the center of the picture, Malintzi, about 55 miles distant. The latter is another extinct volcano, 13,510 feet high.

Photo No. 17. "The Pulpit." To attain the crater it is necessary to climb over the rocks seen on the left. These rocks offer a true alpine sport to the ones that conquer the summit.

Photo No. 18. This photograph offers a good idea of the uneven sides of the crater. Beyond the rim, on the opposite side, are seen the hills, the plains, and the sea, the latter being the dark strip beyond the white line marked by the cross on the right. This photograph is unique, showing as it does the height of the mountain above the level of the sea.

Photo No. 19. The Peak of Orizaba. The summit of the mountain and the walls of the crater are plainly seen. Notice the size of a human being, marked by the two arrows on top and to the left, in comparison with the surroundings.

Photo No. 22. The summit. Mr Wonson to the left, Mr Melgarejo to the right, and guides. A large cross, made of iron piping, was erected here by a pious German, but, undoubtedly struck by lightning, it has fallen to the ground in greatly distorted shape. The view obtained from this high point commands a hundred or more miles in every direction. The formation of the high Mexican plateau, the Gulf watershed, and the coast is here plainly seen. As shown by the photograph, the actual "top" of the mountain is about two or three feet square.

THE FRINGE OF VERDURE AROUND ASIA MINOR

By Ellsworth Huntington

WHAT kind of a place is this? Here we've been waiting in Girmeh over an hour and no one will bring us anything, not even bread and grapes and sour milk, although we are willing to pay well for them.

"No good sons of the Prophet would ever treat strangers so. We have traveled many moons in Anatolia and never met anything like it. To whom were you saying your prayers so piously when we arrived? Not to Allah, certainly. You think Baulo is a country place way off in the woods, but there they behaved like good Mussulmans. Here you act like infidels. We'll tell about you at the bazaar, and we'll put you in a book, so that every one will be ashamed to say he is from Girmeh."

Our strictures went home and there were many apologies. "We are poor," they said, "and have nothing to offer to such distinguished guests."

"Poor?" we answered. "Do poor men wear such splendid colored gowns as those which you have on? If you were poor could twenty of you sit around all day under the walnut trees by the fountain at harvest-time with nothing to do but say your prayers? Can men be poor who have such springs of pure water as this, and who own such magnificent orchards and gardens? Look down the mountain-side there and see those vineyards and all the trees. How many kinds have you?—walnut, fig, mulberry, pear, plum, apricot, 'little red' [a kind of bright red acid plum], and a dozen others. And who owns all those wheat-fields on the terraces along the mountain slope between here and the pine woods? No, you are not poor, but simply rich and lazy."

"Well," they said, not altogether truthfully, "we might have brought some rugs for you to sit on, but all our goods are out in the garden houses, where we live in summer. We've sent a man to get you something to eat."

The villagers felt that they were wrong, for they knew that they had not acted according to the common practice of Mohammedans. Yet after all they did not care greatly, although they certainly objected to having a rival village praised at their expense, and to having the word go out at the neighboring bazaar town that their village was inhospitable.

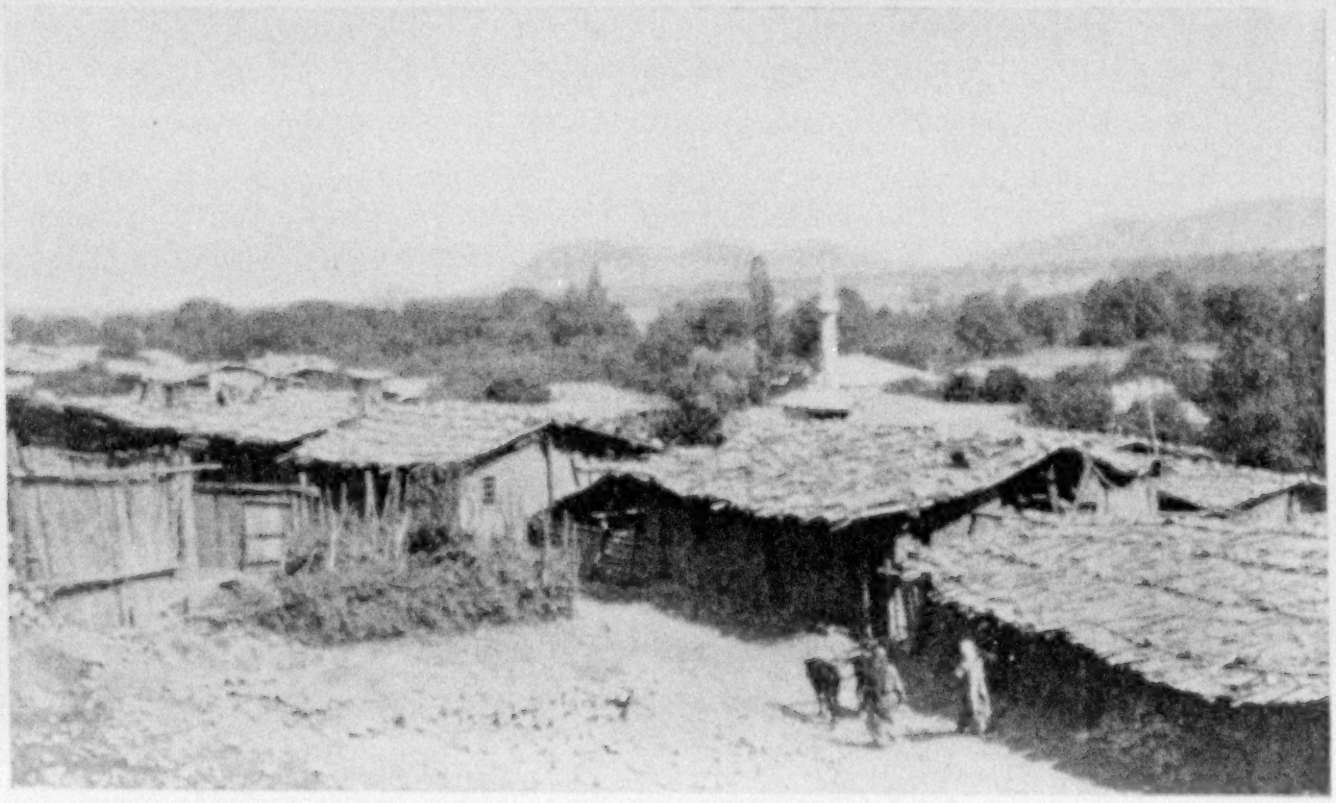
Perhaps there was a tinge of malice in the remark which one man made to our Greek servant: "What big hats these men wear. They must be very great men, but the other foreigners who came here a few years ago were greater, because they had bigger hats."

Whatever their feelings, the people of Girmeh finally supplied our wants. They were evidently glad, however, when we went on our way westward through the beautiful pine woods on the mountain top, past the ancient and now waterless ruins of Cremna, and down into the barren land on the other side.

Girmeh lies about 40 miles from the Mediterranean Sea, north of the city of Adalia, which is located at the head of the great bay in the middle of the south coast of Asia Minor. To reach the village we had spent a hot morning in climbing nearly 3,000 feet westward up a steep slope of white limestone, from the valley of the Ak Su, which flows south through splendid forested hills to the plain of Adalia and ancient Pergamum, where Saint Paul began his famous journey in Asia Minor.

Much of the way the sun beat upon us from the bluest of skies, dimmed only by a summer haze which increased the feeling of languor occasioned by the warm, damp air. Often, however, we

A TURKISH MILL



A VILLAGE IN THE FORESTED BORDER OF ASIA MINOR

The rough shingles on the roofs are kept in place by rows of white stones

were in the shade of fine oriental pines, many of which have their branches bunched at the top in a form suggesting the palm. They were of a sunny yellow tint, washed, as it were, over deep green.

We were in a lovely land of sharp-cut cliffs of variously tinted limestone rising from rich green valleys, with pretty, prosperous villages here and there embowered in a wealth of trees. The ground, to be sure, was dry, and the abundant growth of spring grass had died entirely by the time of our visit in August, but trees and bushes were still verdant, and so, too, were the garden tracts watered by the great clear springs which determine the location of the villages.

Two days later we came to the village of Kuzzililar. It is only 50 miles southwest of Girmeh and 40 miles west of Adalia, but its scenery and the character of its people are absolutely different from those which have just been described. In spite of its nearness to the sea, the village gets little moisture, for it lies on the landward side of a range of mountains 10,000 feet high.

A gentle descent over treeless slopes brought us to an open plain, green with the reeds of a great swamp at the western end and brown with ripe wheat in other parts. The eastern horizon, toward the Gulf of Adalia, was black with the clouds and rain of a heavy summer thunder-storm, which cooled the plain but gave it no moisture. Westward the sky was clear except for a few light clouds, pink in the setting sun.

Here and there groups of harvesters with camels and donkeys were moving homeward toward the barren little villages of stone and mud nestled at the base of the mountains, where small springs furnish a scanty water supply. Elsewhere the villagers were still hard at work, eager to take advantage of every moment of daylight.

It was dusk when we reached Kuzzililar, a group of a dozen houses, with no verdure except a few willows and some fields of tall hemp surrounding every house. A harvester, just back from the field, pointed out the guest-room. It was so poor and forlorn that we did not wish to stay there.

"See," we said, "yonder is a good house, with two stories and an upper balcony made of wood. Let's go there and see if they won't take us in."

"Yes, it's a good place," answered the servants, "but don't you see there are 'black-eyes' there?"

Going nearer we hailed a young man, who evidently belonged to the house. He did not seem at all disposed to receive us, because, as he said, there was no room, and also the guest-house was empty. We were just turning away when a "black-eyes"—in other words a woman, so called because when she is properly veiled only her dark eyes are visible—looked over the railing of the porch and called out, "Let them come near, that I may see them."

She was the young man's mother and her word was law. On looking us over she decided that she wanted to see more of such odd-looking strangers, so up we went to the crowded porch, where most of the family appeared to be living. They moved inside, however, and left us in comfort.

When the head of the house, a keen old man, came from the fields, he began to reprove his son: "Why are the strangers here? Let them go to the guest-house, and not come here where the women are. There we will gladly bring them food and all things that we have. Why didn't you send them there?"

Just then his wife came up, and a single word from her turned him back to us with profuse apologies. "You are welcome indeed. I did not know who you were. I thought you were Circassians, come with tobacco to sell [an illegal and highly profitable traffic]. What village are you from? What do you bring to sell? Have the 'sharp flies' [mosquitoes] bothered you much? This wind will keep them away tonight. Is your village a large one? How many hours away is it? Make yourselves comfortable and soon my 'house' [that is, 'wife'] will have something ready to

eat. We are sorry that our fare is so poor. Come, let us look at your wares."

Great as was the poverty of this simple village and hard as the villagers worked, one felt that they were truly hospitable. Strangers were sent to them by Allah and were to receive the best that they had, and especially strangers who actually had nothing to sell and therefore must be great officials, perhaps on a secret mission. The old woman was simply delighted with a tin box and some sweet crackers that we gave her. The pleasure which she showed at the prospect of spending our present of a dollar in bargains for the children at the weekly bazaar proved how womanly she was, even though she did say her prayers like a man and rule the household with the hand of a tyrant.

The villages of Girmeh and Kuzzililar are typical of the two chief divisions of Asia Minor, both in scenery and in the character of the inhabitants. One division embraces the coastal region and the other the plateau. On all sides of the peninsula of Asia Minor, both on the Black Sea and the Mediterranean, mountains rise more or less abruptly to heights of from 4,000 to 10,000 feet. Their outer slope is comparatively well watered, because winds from the sea blow inward and are obliged to deposit their moisture by reason of the cooling which they suffer in the process of expansion due to rising. The case is exactly like that of Palestine and Lebanon, or like the mountains of California. Along the seaward slope there is a good amount of vegetation, and in many cases, where the mountains are of sufficient height, splendid forests form a belt from 5 to 30 or 40 miles wide. Beyond the crest of the mountains, where the inflowing air descends and therefore becomes warmer, the rainfall rapidly decreases and the country becomes dry and barren.

Hence the interior of Asia Minor, the great plateau some 3,000 feet above the sea, resembles the Syrian desert east of Mount Lebanon and the basin region of Nevada and Utah east of the Sierra Nevada in being much drier and less productive than the seaward slope of the country and in being practically devoid of forests.

During the visit of the Yale Expedition of 1909 to Asia Minor we saw an excellent example of the contrast between the coastal region and the interior immediately upon entering the country. We followed the famous route which leads from the northeastern corner of the Mediterranean Sea up through the narrow gorge of the Cilician Gates to the terminus of the Bagdad Railway at Eregli, on the southern side of the plateau of Anatolia.

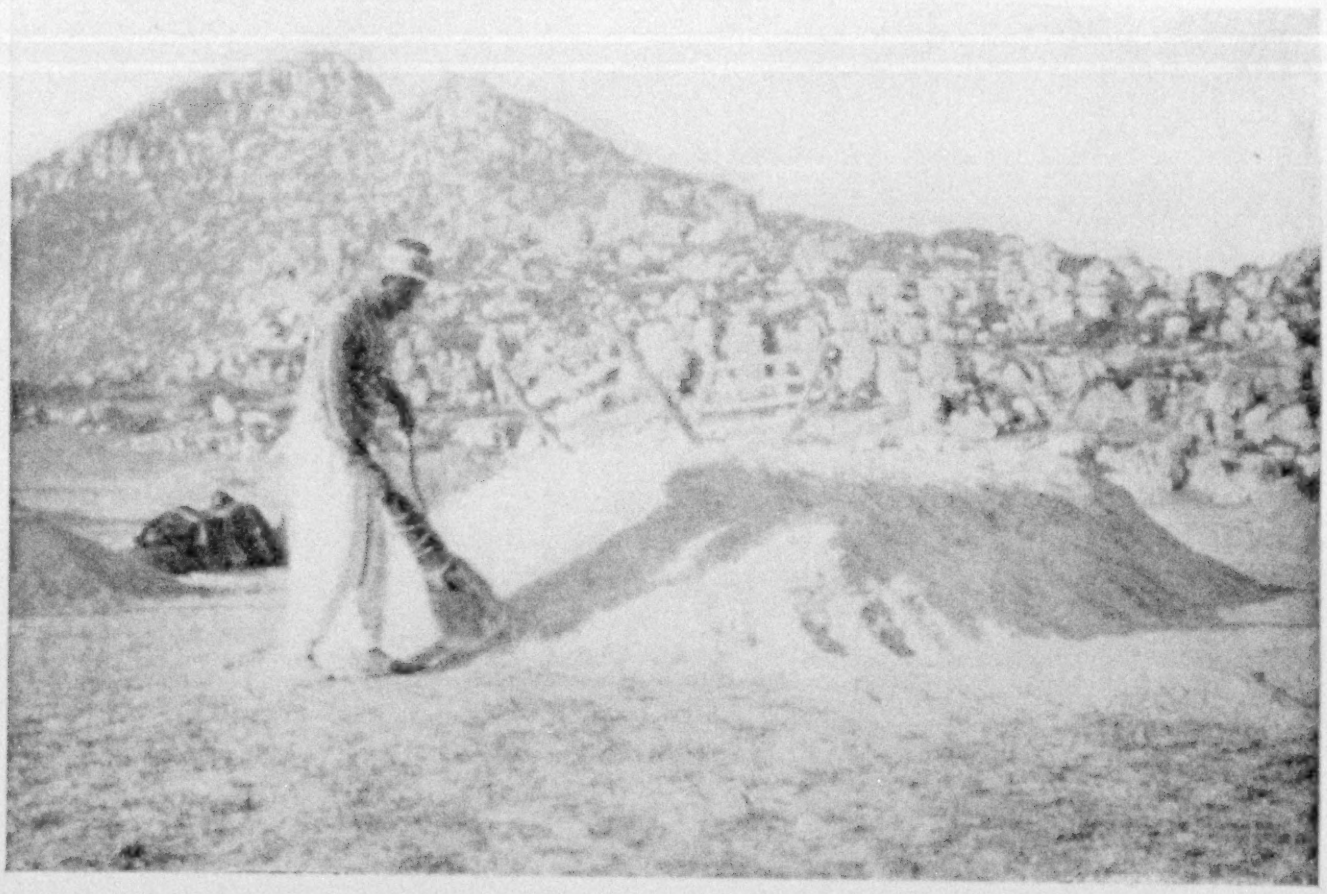
Close to the sea lies the populous deltaic plain of Cilicia—warm, moist, and enervating—the product of hundreds of thousands of years of alluvial deposition by the rivers Sihun and Jihun. There are no more luxuriant grain fields, more fruitful vineyards, or richer gardens in all Turkey than those of Cilicia. The population is dense and comparatively prosperous, although not energetic. Factories of considerable size have recently been established, but it is interesting to note that it is not local initiative which keeps them up. The owners are largely men from Europe or Constantinople, and the employees are in good measure Armenians and others who come down from the poorer but more invigorating regions of the plateau to the north.

We visited Cilicia some ten weeks after the barbarous massacres of the spring of 1909, when 20,000 Christians, more or less, were slaughtered by fanatical Moslems at the behest of the former Sultan, Abdul Hamid II. In Tarsus and Adana, in the Armenian quarters, we saw street after street which had been reduced to a mere lane of ruined walls of mud and stone, seared by flame and blackened by smoke.

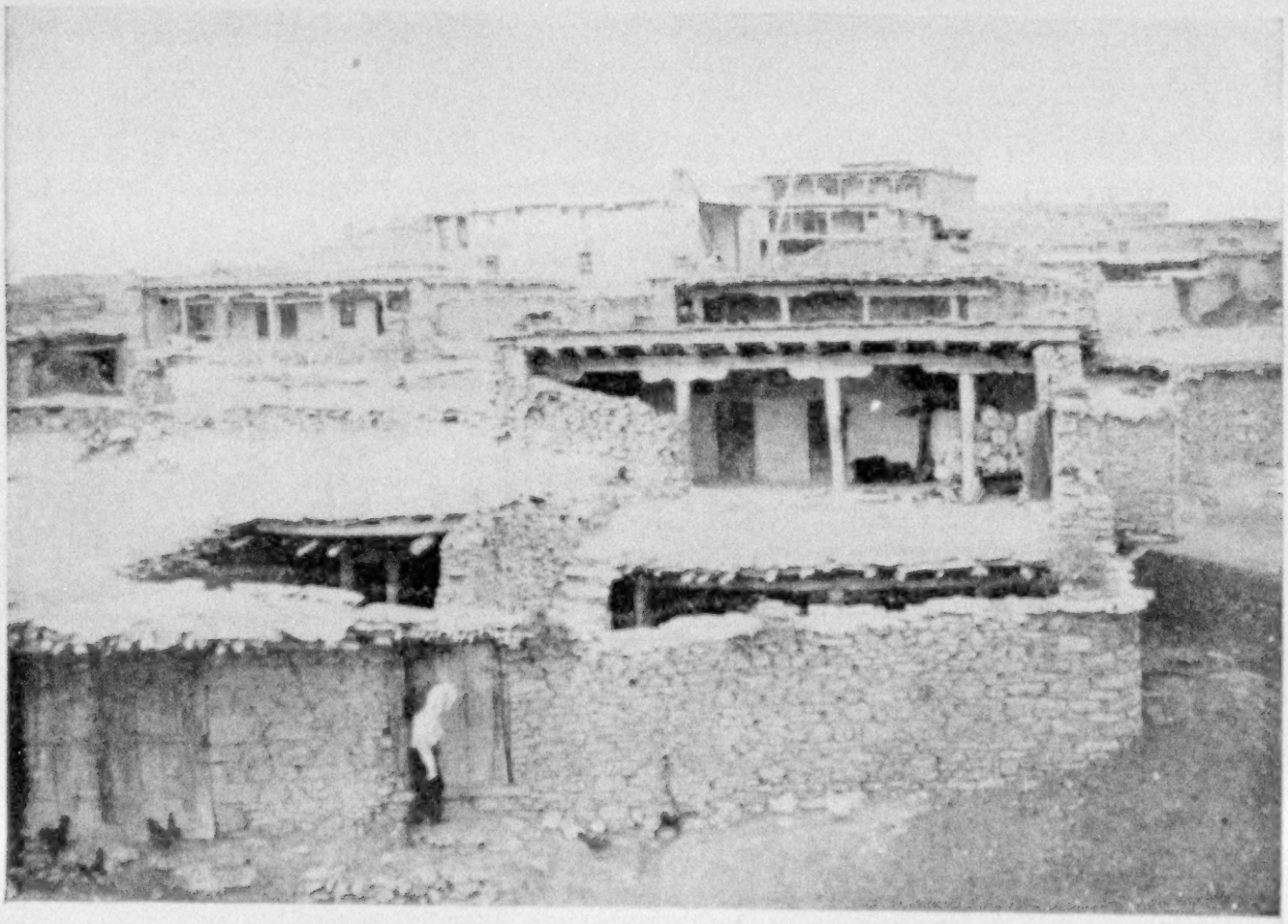
Within the open inclosures that once were houses a few miserable refugees were cowering under the open sky, enduring for a time in the hope that the reformed government of Turkey or the charitable Christian nations of Europe and America would aid them to build

AN ANCIENT INN IN THE TREELESS PORTION OF ASIA MINOR

A ROADSIDE FOUNTAIN



SWEEPING UP THE THRESHED WHEAT ON THE THRESHING FLOOR



A VILLAGE IN THE DRY PORTION OF ASIA MINOR

new dwellings and go on with their old life.

Some of the facts connected with the massacres illustrate the character of the Turkish people so forcibly that it is worth while to pause in our description of the country and record them. The facts belong to history, but they have a place in geography, because the character of any race is, in part at least, the product of the geographic environment under which that race has grown up, and of the movements of the race under the influence of geographic conditions.

In the more inaccessible parts of Turkey, especially among the high mountains which border the western plateau of Anatolia and which rise in all parts of the eastern or Armenian plateau, there are large numbers of people who are not Turks either in name or religion, and many others who are nominally Turks but are in reality the descendants of earlier races, such as the Phrygians, Lycaonians, Armenians, Karduchi, and Hittites. They have adopted Mohammedanism merely as a means of avoiding oppression and persecution.

The more open regions of the semi-arid center of the country are inhabited largely by people who are almost purely Turkish in race. These, as might be expected, form the backbone of Turkish power and the flower of the Turkish army. The character of the true Turk has doubtless been greatly influenced by his present surroundings, and has certainly been modified by Mohammedanism, with all its inheritance of the habits and modes of thought of the desert. Nevertheless it still bears deeply the impress of the physical circumstances which gave rise to the nomadism of his ancestors in Central Asia.

To turn now to the specific facts which are here to be used as an illustration of Turkish character: On April 16, 1909, there occurred in the city of Adana a massacre of Christians by Mohammedans. One cause was the fact that in 1895-'96, when extensive massacres took place in other parts of Turkey, there was none in Cilicia, and the Turks of that region said, "Let us have a massacre also and get rich by robbing the Christians."

Other causes were the jealousy of many Turks at the superior ability and prosperity of the Armenians, a strong but false impression that the Armenians were engaged in revolutionary plots, and the anti-Christian feeling fostered by Sultan Abdul Hamid for the purpose of recovering the power which he lost when he granted constitutional government. Under such conditions it was an easy matter for corrupt officials to carry out the express orders of the Sultan for a massacre of Christians. At the time of the massacre troops were already on the way from Saloniki to dethrone the old Sultan and reinstate the new constitutional régime. Part of these troops were promptly deflected to Adana by the controlling committee of the Young Turks in order to put a stop to disorders there. The troops were chiefly poor, stupid peasants—young, ignorant, and inexperienced—but they were supposed to be full of the spirit of progress and liberty and fraternity, and to be devoted to the new régime. What, then, was the amazement of men of all opinions to hear that these troops reached Adana on the morning of Sunday, April 25, took over the guarding of the city from the old troops who had helped to carry on the preceding massacre, and on the same afternoon inaugurated a massacre of their own.

What happened appears to have been as follows, according to the statement of the most reliable authorities, including American missionaries, the English consul, some prominent Armenians, and some of the more liberal Turks:

When the Turks disembarked from the railway which had brought them 40 miles eastward across the plain from the port of Mersina, many local Turks of Adana, especially the Khojas and Mullahs, or religious leaders, mingled with them and said, "Thank God, you have come. Now at last we shall be safe. For days and days we have been living in terror of our lives. These terrible Armenians have been burning our

THE CITY OF ADANA (SEE PAGE 767)

ARMENIAN REFUGEES LIVING IN THE RUINS OF THEIR BURNT HOUSE AT TARSUS

TENTS OF SEMI-NOMADIC TURKS AMONG THE HIGH MOUNTAINS NEAR ADANA

A STREET SCENE IN THE DRY ANATOLIAN PLATEAU

houses, robbing our shops, and carrying off our wives and daughters. Now you have come and we shall be safe, but look out that they don't shoot you unawares."

So it went on all day, for a deep plot had been laid by the reactionaries. About four o'clock a soldier was actually shot, not by Armenians, but, as is generally agreed, by some Turk who thought it worth while to sacrifice a soldier for the sake of inflaming the rest.

The plot was successful. The soldiers became fully convinced of the perfidy of the Armenians, their stolid minds were inflamed, and nothing but a massacre would satisfy them. The soldiers believed that they were slaughtering their enemies and the enemies of their faith. They did not stop to think or reason; they simply accepted what was told them by those in authority, especially by the religious leaders.

The Turk is a slow man, mild and gentle and easy to deal with on ordinary occasions, but when he is aroused he loses all common sense and is a mere wild animal. This contrast between his ordinary mildness and his occasional ferocity is the explanation of much in his history. Possibly it has something to do with the fact that for long ages before his arrival in Asia Minor, six or eight centuries ago, his ancestors lived the life of nomads in the deserts of Central Asia. Such a life consists chiefly of long periods of passive inactivity, when the cattle and flocks are grazing peacefully and a man has no need to think, for there is nothing to do except watch the women work. Now and then, however, there come periods of the most intense and exhausting activity, when the animals are lost or are in peril from storms, wild animals, or raiders. Then the nomad becomes well nigh a monomaniac, and will endure almost unlimited privation and distress to accomplish his purpose.

To come back now to the two divisions of Asia Minor, the Cilician plain belongs, of course, to the well-watered coastal region. Going northward across it, one soon comes to the narrow valley which leads up to the Cilician Gates. Magnificent pine trees cover the mountain slopes, for rain falls even in the summer, when most parts of Asiatic Turkey are suffering from four or five months of absolute drought.

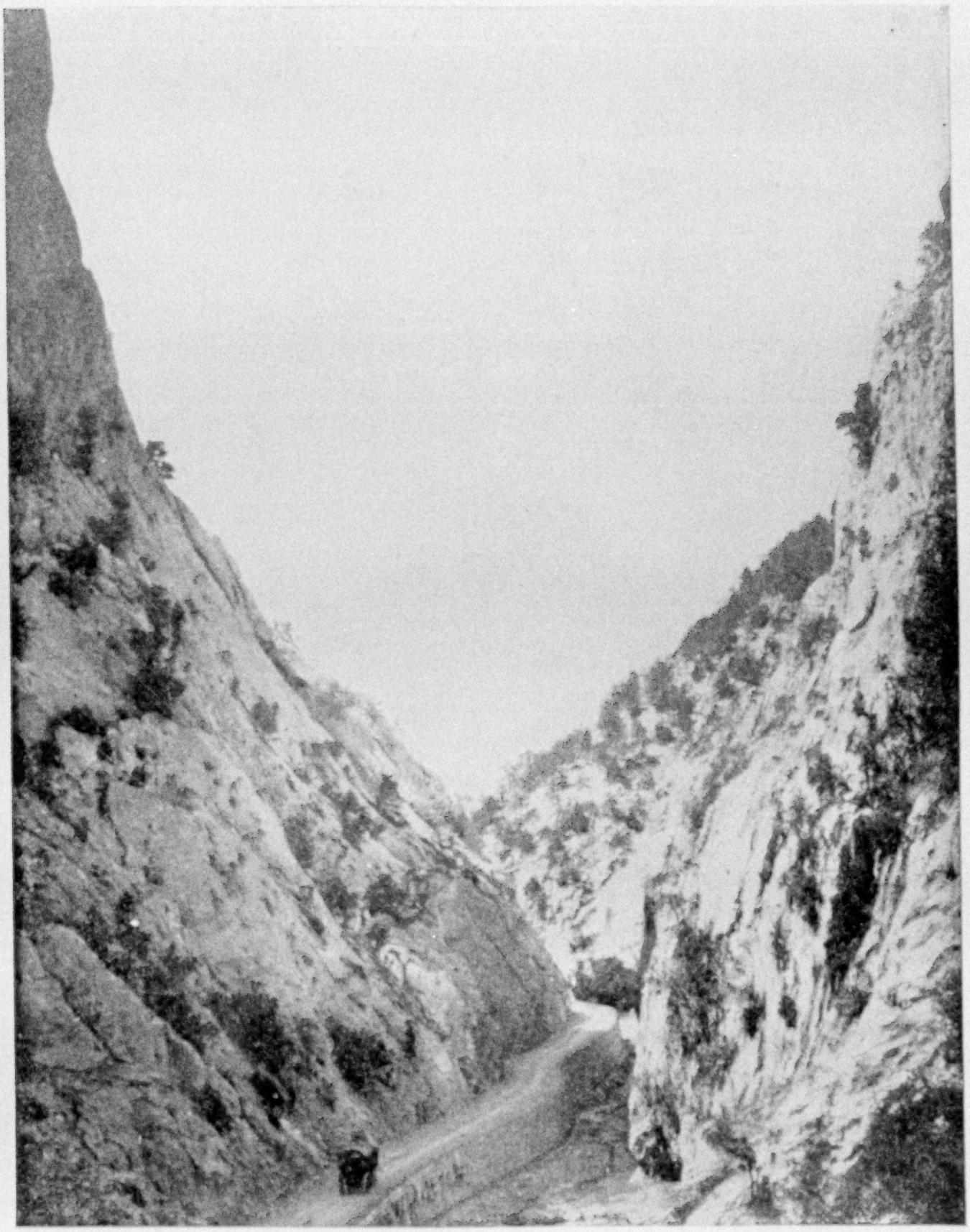
On our first night out from Tarsus we slept on the flat roof of the khan, or inn, but had to get up in the middle of the night and carry our beds under the shelter of a booth of leaves. Twenty miles seaward or 20 miles landward there was probably no rain, but we were in just the position where the air rising up the slope of the mountains was cooled sufficiently to give up its moisture.

In the khans the talk was still of the massacres at Adana, and especially of the punishment meted out to some of those who had taken part in them. The Turks did not seem to be much impressed by the fact that six Armenians had been hung for shooting some of the Mohammedan mob, in the attempt to defend their homes and families and their own lives. What did impress them was the nine Moslems who had swung for killing Christians.

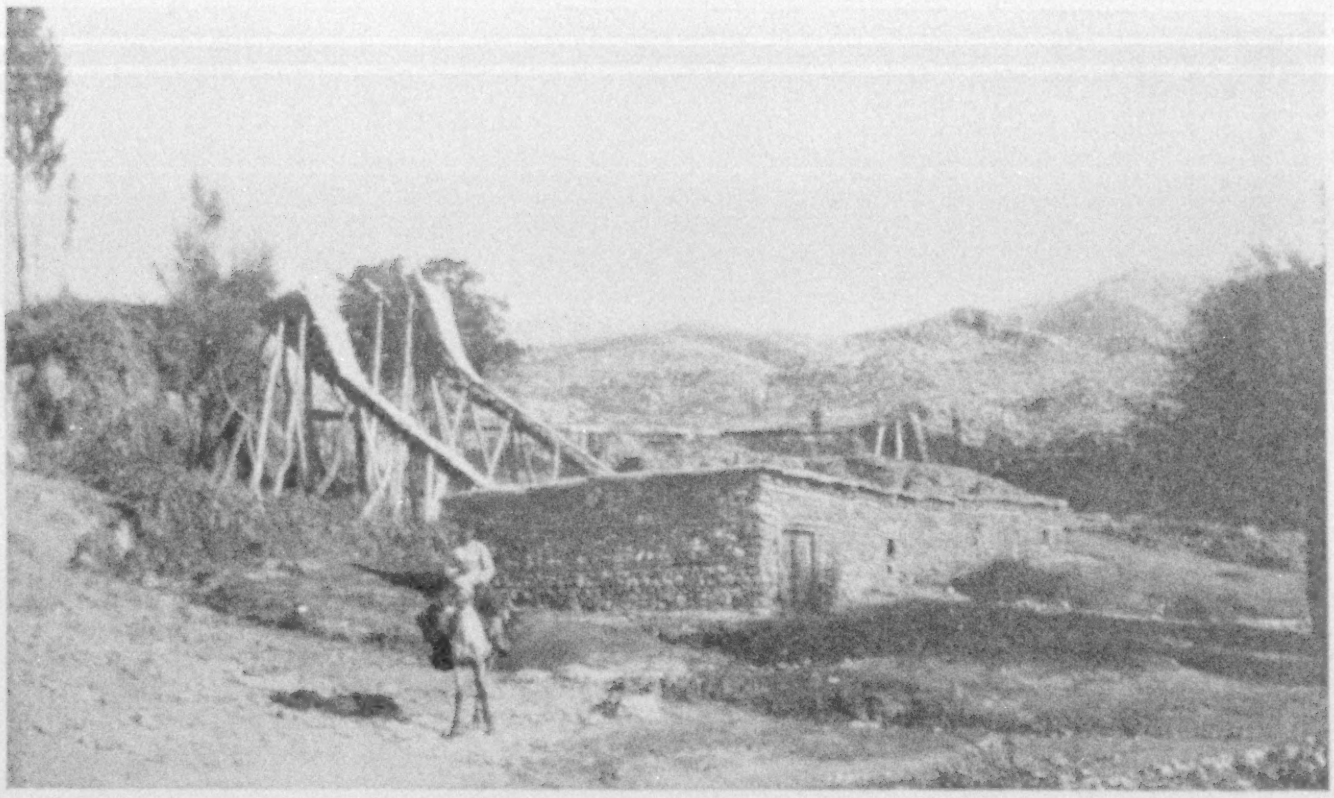
To many it seemed to be an absolutely new idea that a Turk could be punished for any wrong done to an Armenian. "What," they said; "hang a Turk for killing a Christian! It *cannot* be. They surely would *never* do that."

And then one of them, wishing to clear his own skirts, told how some one had offered him a horse stolen from a Christian at the time of the massacre. He had refused to buy it, although the price was extremely low, because, forsooth, it had been stolen. The man may have been lying, but the fact that he should think it worth while to lie in regard to such a matter is significant. Formerly he would have boasted of plundering Christians; but now a new spirit is beginning to spread abroad, vaguely and unconsciously, to be sure, but with possibilities of growth.

The gorge leading up to the Cilician Gates is a fine bit of scenery, much better illustrated by pictures than described by words. The gate itself well deserves



THE CILICIAN GATES (SEE PAGE 770)



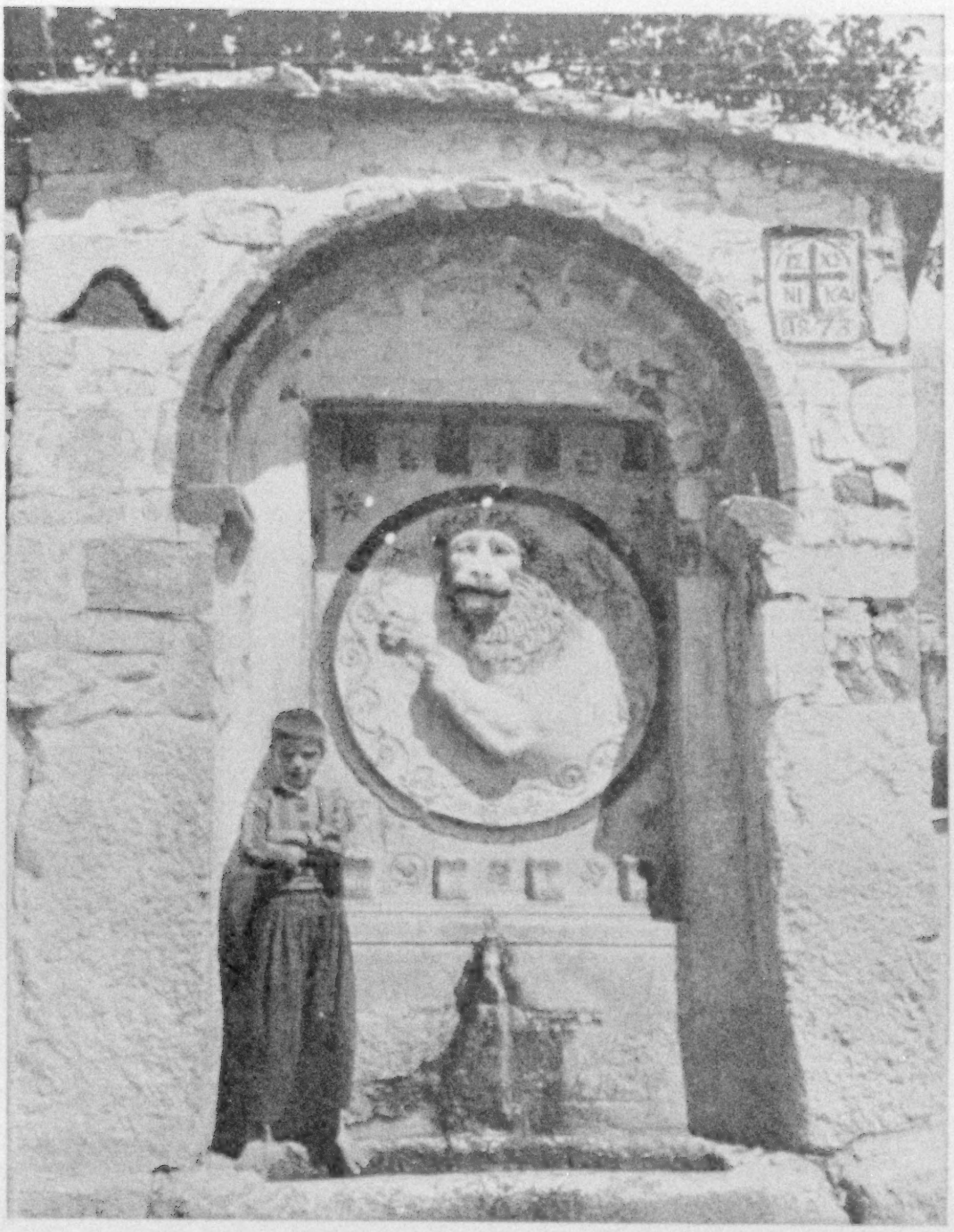
A TURKISH FLOUR-MILL

its name, for it is in truth a gateway, the only passage for a hundred miles or more by which it is possible to cross with ease over the Taurus range, whether one be going from east to west or north to south. Darius, Xenophon, Alexander, the Crusaders, and many other invaders have used it as a matter of course, because there was no other route. Many of them left the record of their passing carved upon the stone, but most of the inscriptions are now obliterated.

The gate is a narrow canyon, with almost perpendicular sides, at the base of which it has been possible to build a roadway only by encroaching upon the space where the river once ran. The narrowness of the gorge and the steepness of its sides are due to the fact that just here the limestone which composes the mountains has been sharply bent down to the northward and broken off. An unusually hard layer which normally lies on top of the other rocks is thus tipped over until it stands almost vertical. During the course of ages the softer rocks on either side have been worn away, and this layer has been left as a ridge running nearly northeast and southwest and cut in two by the sharp, stream-worn gash of the gates.

The Cilician Gates have been much talked of in connection with the projected Bagdad Railway from Constantinople to the Persian Gulf. For years the railway has waited at the edge of the interior plateau, unable, as it were, to get through the peripheral mountains and down to the Cilician plain. At last, however, it is about to move forward toward Adana and Aleppo, and ultimately, after 10 or 20 years, toward the Persian Gulf. During the summer of 1909 surveys were carried across the Taurus Mountains and construction will now proceed rapidly.

The line will not pass through the Cilician Gates, as has often been supposed. About five miles to the east there is another gorge, deeper and more inaccessible than that at the gates, but occupied by a larger stream, the Chakit. This branch of the Sihun heads well back in the plateau and runs direct to Adana, the objective point in the Cilician plain. The Chakit gorge is so narrow and deep that it has never been possible to use it as a roadway. For a railroad,



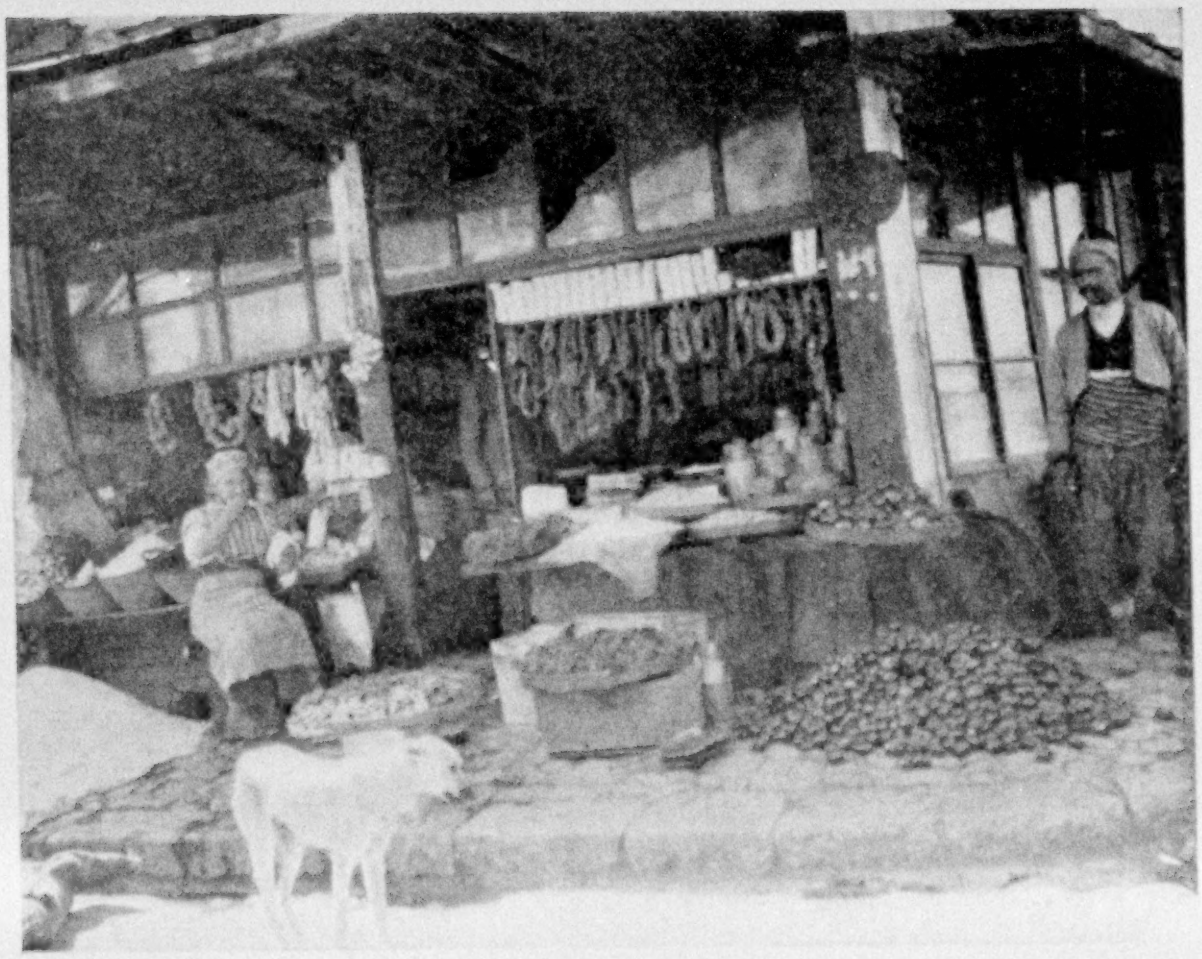
MODERN GREEK FOUNTAIN IN PHRYGIA WITH ANCIENT PERSIAN LION BUILT INTO THE CENTER: THE BOY IS A GREEK

however, it is better than the Cilician Gates, because it has been cut to greater depth across the ridge of hard limestone, and hence the grades are not so heavy.

Even so, the engineering difficulties are formidable. From the divide on the plateau near the head of the Chakit River the descent amounts to nearly 5,000 feet in 70 miles, as measured along the river, without reference to the minor windings. In the 20 miles of the most inaccessible part of the gorge the descent is over 2,000 feet, so that the average grade is more than one foot in 50, which is very difficult for heavy freight. Even if the railroad is built with many windings, the grades will be hard.

The expense is bound to be immense because of the large number of bridges, viaducts, deep cuttings, and tunnel which will be required. The German and Greek engineers who are laying out the route say that the line as a whole will prove as difficult to build as any in Europe, except the Simplon, in Switzerland, with its long tunnel.

A BIT OF THE TREELESS PLATEAU OF ANATOLIA



A PROVISION DEALER

Beyond the Cilician Gates to the northward forests continue for 10 or 20 miles, but they soon disappear, because the rainfall diminishes rapidly as soon as the crest of the Taurus Mountains is passed.

At length the road, a well-made macadam highway, leaves the Chakit Valley, which it enters beyond the gates, and rises over bare hills unrelieved by any trees except an occasional bit of oak or cedar scrub. Shepherds begin to be seen on every side with their flocks.

Little farm-houses are no longer scattered about here and there wherever there is a bit of land smooth enough for cultivation, but in their stead villages are seen clustered about the occasional springs, where alone it is possible to get water throughout the year.

The houses are no longer built with sloping roofs, thatched or shingled to keep off the rain and full of half-hewn logs of fine timber. They are made of mud and stones, with scarcely a trace of wood except for the beams on which the flat mud roof is laid above a layer of brush. What need of a sloping roof where the rainfall is so scanty, and, if one is needed, how can it be constructed where there is no wood and all men are poor?

In traveling back and forth between the coastal fringe of forests and the dry plateau of Asia Minor, nothing is more impressive than the contrast mentioned at the beginning of this article. Not only are the scenery, the architecture, the methods of farming, and the whole manner of life of the inhabitants of the two regions highly diverse, but the character of the people themselves differs greatly. This may be due partly to inheritance, but much of it arises from the nature of the land.

The dweller in the open dry country is relatively poor; he often suffers from want, due to bad crops; he travels much from place to place with his animals, and the outlook from his door is broad, and he sees the stranger approaching from a distance and is not alarmed by his sudden appearance. Hence he is ready to share his meager supplies with others, because he knows the need of help, and his nature is comparatively unsuspicious and hospitable.

With the inhabitant of the forests it is different. He lives in comparative comfort and rarely suffers from actual want. He dwells apart oftentimes and at most sees few strangers. When they come to him he is worried and suspicious. He is not ready to receive them, because in his own experience and in that of his forefathers there has been little need of asking hospitality from others.

In these ways and a thousand others the life and character of men reflect the peculiarities of their land. The soul of the people can only be understood by looking through the eyes of Nature.

NOTES ON NORMANDY

By Mrs. Geo. C. Bosson, Jr.

THE early history of Normandy, even taking it only from the reign of Richard the Fearless (907), explains in itself why today, to those who look below the surface, Normandy seems in many ways a separate land from France. The 30 years of English occupation under Henry V have left their lasting impress, though its natural position demands that it should be an integral part of France.

That Norman power of adaptation to circumstance was the "fatal gift," so apparent in its Sicilian conquest, which has destroyed the Norman as a separate race. It has been said that "the finished historian must be a traveler," but one who possesses to the full the instincts of the

CASTLE WHERE WILLIAM THE CONQUEROR WAS BORN

Located in the old Norman town of Falaise, this picturesque stronghold occupies a commanding position on a rugged promontory and is of great historic interest

traveler must know his history as he knows with his own eyes the true look of a wide land.

Picture follows picture in the radiant Normandy landscape; the limpid light is at once brilliant and tender, and the eye feasts always on a banquet of color. Between slits of cliff are bits of sea, poplars shiver in the sun, meadows slope from height to ocean, longing for the sea, and the green roadway threads its path through all. It is not strange that Isabey and Daubigny found beauty here. In fancy Richard Sans Peur and "le Hellequin" still ride through the forests, and legends people every ruin. Less in the present than in the past, one dwells much on the stirring times when Normandy had a life of its own and the Norman name was famous from Scotland to Sicily.

Honfleur is a quaint port, with its famous Saint Catherine's Belfry—house, shop, warehouse all in one, while a delicately modeled spire crowns the whole. Villas line the hills, old gates and watch-towers yet remain of the Honfleur of great days. Beyond the quay bristle a hundred masts, sails drip with color, and the water is Nile green—a bit of Cairo in the north of France. Along the water front the same old houses which nearly 300 years ago were brave in their brand-new carvings, as they looked out to see the high-decked Spanish ships ride in, dipping their flags to the *fleur-de-lis* of France. Then Havre was only a strip of yellow *plage*, before the threatening sand bar stole Honfleur's harbor inch by inch.

Lisieux is one of the charming corners where something still remains of the Middle Ages, and in the church are windows depicting the marriage of Henry II and Queen Eleanor, and Thomas à Becket in his Norman exile.

The most personal beginning of the Norman conquest was at Falaise. There from a window of the lofty castle-keep Robert, Count of Hiesnes (later Robert the Magnificent and Robert *le Diable*), saw Arlette, the tanner's pretty daughter, washing clothes at the riverside. With all the settings of romantic legend she became the mother of that king whose bar sinister was blotted out in Conqueror.

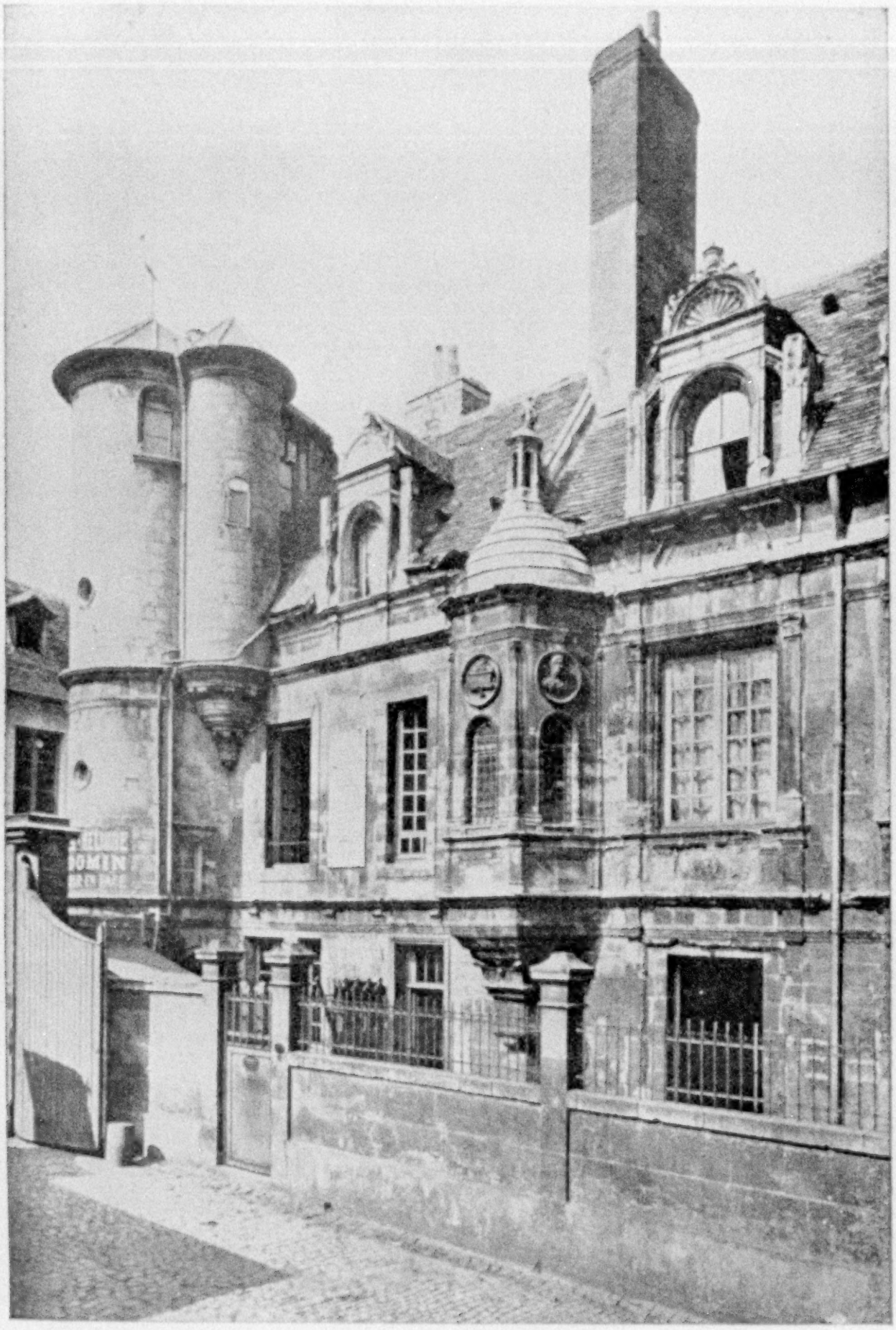
At Caen we are in his footsteps. Saint Etienne contains his tomb, and has an interior remarkable for strength and solidity—a perfect example of the Norman-Romanesque, adorned (?) though it now is by 24 glass chandeliers of the 19th century's most lurid pattern. The Hotel de la Monnaie is a splendid house, built by a princely merchant, Etienne du Val, Sieur de Mondrainville, the man whose great wealth enabled him to get sufficient supplies into Metz for it to withstand its siege in 1553.

There is an atmosphere of heroes and kings in Caen. We see the tomb of the Conqueror and the house where Beau Brummel died. We see the ruined castle where "*le jeune et beau Dunois*" performed prodigies of valor, but on church walls are pasted the staring notices of "*loteries nationales de France!*"

Many French artists, archeologists, and men of letters are alarmed at the lack of consideration manifested by the state for the national monuments, which are being allowed either to fall into decay or to be restored with indiscretion. The great master Rodin is deeply concerned with this question, and in his desire to awaken public interest is about to bring out a series of essays (in his modesty he calls them "notes") on The Cathedrals of France, the study of which is his favorite pastime.

The walls that William built and Froissart writes about are a girdle that is lost today. The Conqueror's vow is brought to mind as one looks at l'Abbaye aux Hommes, and *vis-à-vis* l'Abbaye aux Dames, like the queen who builded it, sits on a throne.

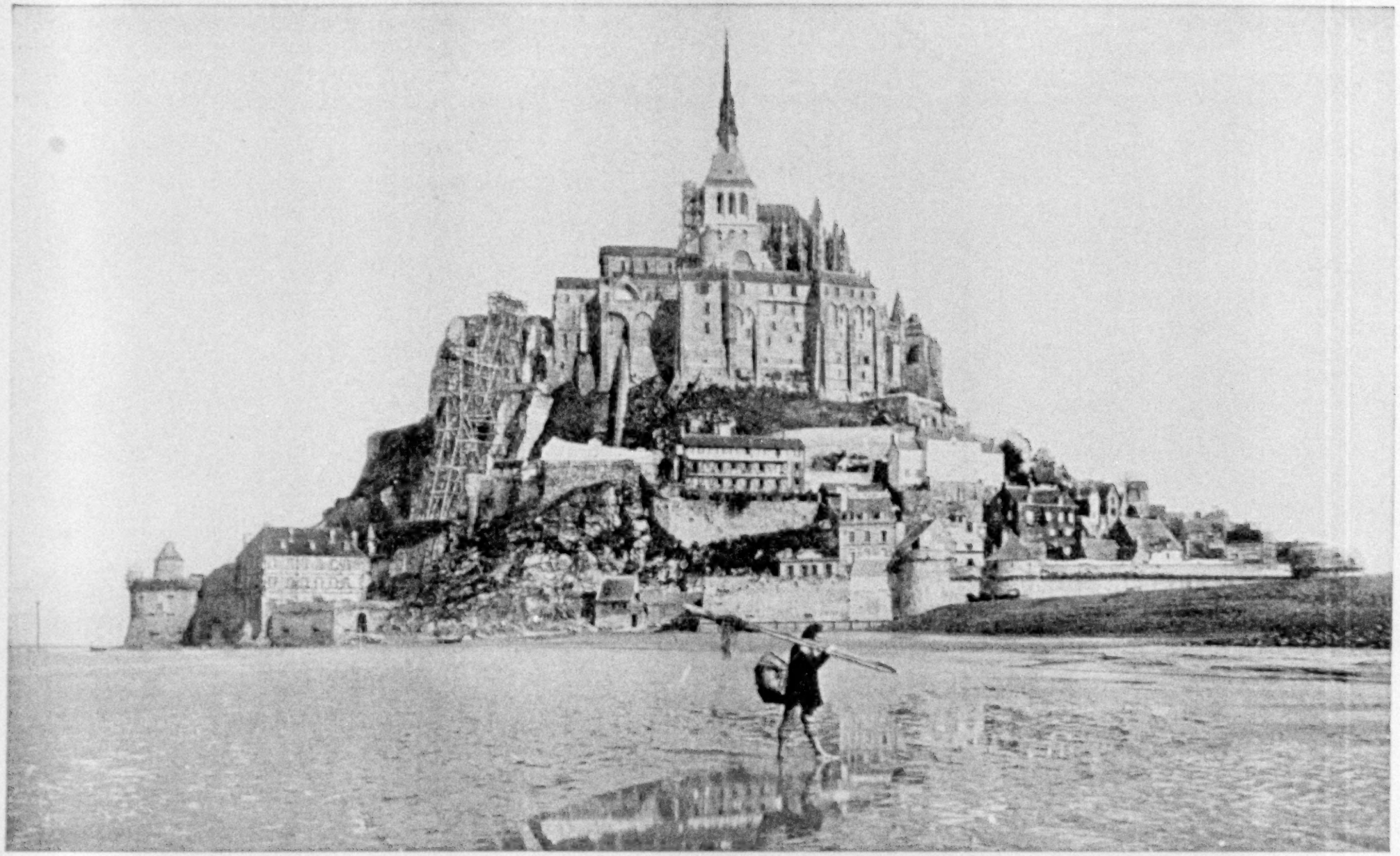
It is at Bayeux, though, that one feels nearer that queen, Mathilde. Gray, dim Bayeux, old even then, when the Conqueror's queen was writing history with her needle. The first of the great French realists, she seems to me, in the naïve sincerity of those old tapestries, which truly are an epic.



HOTEL DE LA MONNAIE: CAEN

A distinctive example of the beautiful architecture of the Renaissance built in the sixteenth century. The ancient city of Caen on the River Orne was the favorite dwelling place of William the Conqueror and his last home. Caen, it is said, was founded by the Saxon Otlings between the third and seventh centuries.

BRETON COSTUMES WHICH ARE FAST BECOMING OBSOLETE



MONT SAINT MICHEL

This stark granite rock, upon which a fortress, an abbey, and a church were builded during five centuries beginning with the seventh, is justly called the Pyramid of France. Situated in the Bay Saint Michel within sight of the sea, it is seemingly the prey of the wonderful tides that sweep in faster than a horse gallops.

THE PORTE DU JERZUAL: DINAN

A gateway of great architectural interest, since it is Gothic without and Romanesque within. The old city of Dinan is what its name signifies, "The Fortress on the Water," being situated on the summit of a great hill of granite overlooking the River Rance. It dates from the Roman period and contains many architectural treasures.

Just a paragraph to percherons, between towns. For who can think of Normandy without them, the darlings! Along the smooth white roads they pass in sturdy line, with that majestic dignity only possible to thoroughbreds, whether horses or humans. Their mottled haunches and polished coats gleam like mother-o'-pearl, and their liquid eyes speak volumes to one who loves them.

Then Dives—Dives, with its inn of the conquering William, where Madame de Sévigné really left her patch-box, and one almost fancies the odor of rose leaves behind her—where the cook beats eggs in old Caen bowls that the china collector greedily gazes on, and where the exquisite tapestries ought to be put under glass. A château it was, built for the Conqueror while his boats were building that he crossed to England in, and over the door are still the arms of an old seigneur who married into the house of Savoy. Dives' port, now nearly choked with sand, was once a great haven. There William's fleet, assembled for the conquest of England, lay a whole month awaiting the favorable winds which never came until they had changed their position to Saint Valery.

Between Rouen and Havre is the pretty town of Caudebec, with quaint timbered houses and its broad terrace beside the river. On a market day, in the Grande Place in front of the church, is to be seen one of the few old-time sights of Normandy, the grand old church and the place itself contributing their share in the *ensemble*. But the traveler who would see this specimen of an old Norman town, wearing still its mellow and picturesque charm, must hasten thither without delay.

Mont Saint Michel, with its detached air, appears as though man and nature united in their work to build a masterpiece. Its one straggling street, that begins in the gateway of a king and ends—ah, that is the point. Where does it end? Three times did the vision of Saint Michel appear to Saint Aubert, commanding a church on the rocky heights. Hence rose that marvel of early Norman architecture, with its tombs of saints and heroes and brothers of kings, its Black Virgin, its Salle des Chevaliers with sunlit aisles, its cloisters and exquisite colonnades. As one thinks of the history that has peopled this pinnacled hill, emotions, impressions, and sensations crowd the mind, and surely the faintest imagination can fill the structure with the kingly shapes and knightly shadows of the Hundred Years' War.

Trouville, Deauville, Dieppe—in a short sketch of Normandy I purposely omit those gay bathing places, those *"doubles extraits de Paris."* They are Watteau in the 20th century, though, and the salon of a casino in the height of the season is an animated and diverting scene.

In Normandy the artist may find congenial occupation and the opportunity, so difficult in these days, of sketching picturesque types—groups at the market place, groups at the inn doors, horses in clumsy harness, goats and sheep in biblical mélange. He will find doors and porches of so good a pattern and so old that they are new to the world of today. One may learn the value of variety in its simplest forms and realize the artistic worth of high-pitched roofs and contrasts in color, if it be only of dark beams against plaster, and of meaning in the lines of construction. But these treasures of Normandy are disappearing fast and must be quickly gathered.

In all the fair Normandy coast, each year more and more is there a disappointing note. One looks almost in vain for the old Normandy costumes; the blouse and the close white cap are all that are left now of the wondrous headgear, the short petticoats, the embroidered stomacher, the Caen and Rouen jewels of a generation ago. Modernizing destruction is rapidly blotting out the memory of old days!

OUR GREATEST PLANT FOOD

By Guy Elliott Mitchell

IN estimating the possible limit of American civilization, strength, and supremacy, has any economist ever recognized as a factor the phosphorus supply? Why, how absurd! Phosphorus? What has it to do with civilization? Its principal uses are for matchheads and as a fertilizer for plants. Ah, a fertilizer?

"Westward the course of empire takes its way—and leaves the ruined lands behind."

This is not a pleasing paraphrase, but it is true, and largely because those lands, after years of cropping, become deficient in phosphorus. Therefore it may be admitted that the government's present activity in applying conservation methods to the public phosphate lands, just as it does in the cases of coal and petroleum lands, is wise. But is it really necessary to carry out such drastic measures as are proposed for the phosphate lands and prevent the exportation of phosphate from government deposits, and thus unquestionably curtail the development of what is rapidly growing into a great American industry? Let us see.

The problem of farm production is the most important question which the American nation has to consider. It transcends all others, economic or political. If the broad farming lands of the Republic maintain or increase their fertility and productivity, all other problems will eventually right themselves more or less satisfactorily and the prosperity of the country be absolutely assured.

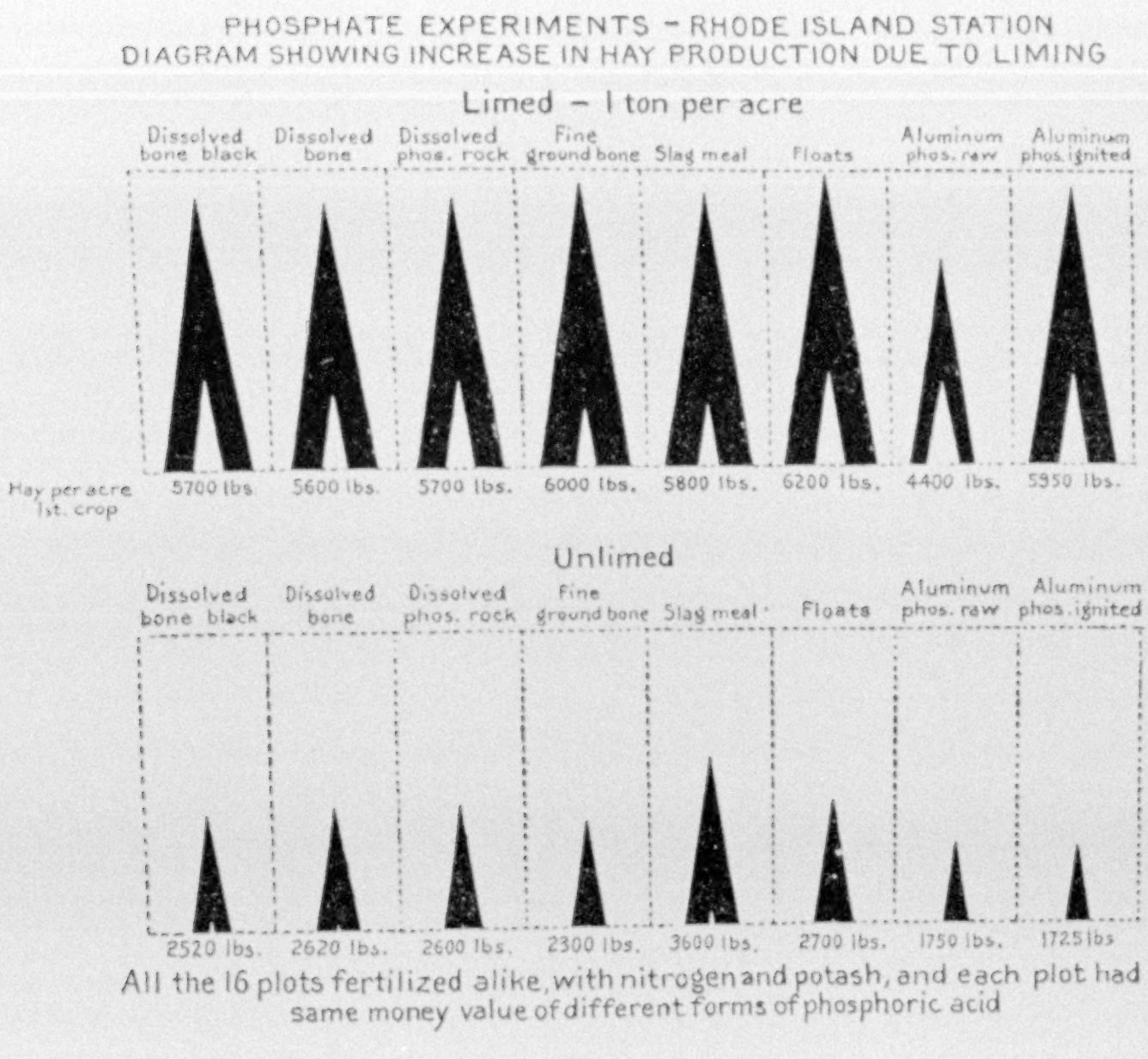
Phosphorus is one of three absolute essentials to plant growth. If you take a flower-pot of clean, sharp sand, containing no fertility, and add nitrogen, potash, and phosphorus, plants will grow and thrive. If you leave out any one of these three, the plants cannot grow. Now the natural supply of phosphorus is surprisingly, alarmingly small.

In the early alchemy of the earth, commencing when time was very young, and when the Archean rocks were just beginning to push their way upward through the universal Silurian sea, and then passing on down the inconceivable geologic ages to the advent of man—which was but yesterday—Mother Nature industriously and, in most instances, lavishly provided for all the necessities of the human family which was to appear. In most cases it is seen that she allowed a generous margin—enough to provide for use and abuse of the unreplaceable resources. On all sides the earth is found to be a vast storehouse of crude materials which, through the aid of human genius, are convertible into the necessities and luxuries of existence. But in stocking the earth with one necessary element Nature certainly overlooked entirely the attributes with which she was to later endow the human family, namely, his tendency in the midst of present plenty to disregard the future. This element is phosphorus.

"Now what new crazy scare is this?" exclaims the thoughtless optimist, the man who blindly preaches that human ingenuity will solve every problem as it is presented. "We are so tired of this talk of waste! waste! waste! Of being told that our forests are all disappearing; that our grandchildren will have no coal; that our iron supplies will not outlast the century. The earth and the air constitute a huge reserve of elements. When wood becomes scarce for building, if it ever does, its place will be largely filled by stone and other earth products; when the coal supply gets low, in 100 or 500 years, according to the various guessers, we will use electricity for power and the sun for heat; when the iron deposits become depleted, many centuries hence, we will perhaps have to stop building ridiculous sky-scrapers, and will then erect

WHEAT YIELD INCREASED 133 PER CENT BY PHOSPHATE

Wheat-growing experiments at Urbana (Illinois) Agricultural Station, on land where cow peas had been plowed under. Land shown in upper picture was given an application of lime, and yielded only 9.2 bushels of wheat per acre. In lower picture lime and phosphorus were used together, and yield was increased to 21.5 bushels per acre.



HAY CROPS MORE THAN DOUBLED BY USE OF PHOSPHATE

This diagram affords an interesting study. In reality a liming experiment, it shows phosphorus to be a controlling factor in production of the highest importance. It will be noted that "floats," or raw phosphate, gave the largest yield.

substantial buildings of masonry; when the oil and the natural gas wells run dry, electricity will be gathered from the clouds. We are but in the infancy, on the threshold of discovery and invention. Phosphorus! Brimstone! Let the parlor match become a lost art; man will strike a light from the sun!"

So he will, doubtless; but when the housewife ignites her sun-cooker she must still have bread to bake, meat to roast, and vegetables to boil in plenty, else our people will be illy nourished and our world-pace will slacken and cease. And this is the problem into which the phosphorus supply enters—food.

There are three necessary elements to the production of plant and therefore human food, and only three; but all the discovery and invention and genius in the world, added to all the knowledge that may be obtained from the Martians and other beings, cannot supply substitutes. They are nitrogen, potash, and phosphorus. And, in supplying the earth with just enough of the last-named, and no more, Nature forgot that she was going to instill into man the spirit of wastefulness; and so she has, by limiting her supply of phosphorus, in reality fixed the limit of human existence. Man can lessen or extend that limit as he wastes

or conserves his meager store of this most precious element.

Now how much phosphorus is there? The lithosphere, or outer crust of the globe, holds enormous available supplies of nitrogen, and contains nearly three per cent of potash, well distributed and available as plant food. These supplies are inexhaustible.

But it contains only about one-tenth of one per cent of phosphorus. This is phosphorus enough to grow perfect crops, but there is practically no margin for waste.

Yet the waste is large and constant from every American farm acre, and, under the present practice, the end is in sight for American agriculture—not a thousand years hence, but almost now. In fact it has come to some farm sections. Science realizes it and is preaching the danger, but the people, the producers, cannot see it. Dr. Hopkins, of the Illinois Experiment Station, demonstrates the fact on the so-called inexhaustible black prairie bottom lands of fertile Illinois. What then of the long-cropped lands of New England and the more southern Atlantic Coast States? Let us see what the cold, uncontrovertible facts show with relation to the degeneration of the rich and comparatively new farming lands of Illinois, then apply the information to the rest of our farm area, and see how long under present practice we will be able to maintain our agricultural supremacy, and therefore our prosperity as a people. And then, while there is yet time, let us supply the only remedy.

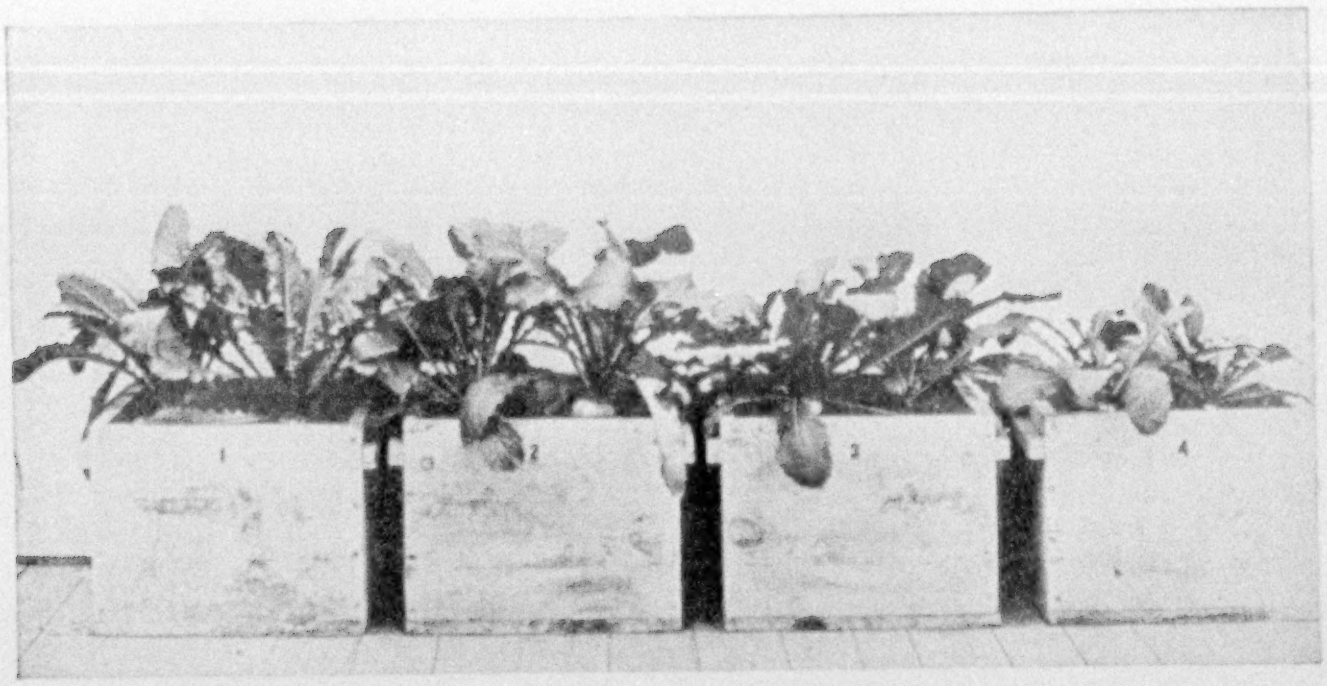
The average of the different kinds of Illinois soils contains 1,191 pounds of phosphorus per acre for the surface 7 inches of dirt. But a 75-bushel crop of corn, for instance, will remove from an acre of soil 17 pounds of phosphorus, and, at this rate of cropping, the total phosphorus content of that soil would be exhausted in 70 years. If the grain is fed on the farm a good proportion of this plant will be returned to the soil. To prove that in actual farm practice the rate of exhaustion is startlingly rapid, a series of soil analyses in three States is cited by Dr. Hopkins, and they show that ordinary cropping for 54 years took away 36 per cent of the original phosphorus content of these soils.

Now, to replenish soils depleted of this necessary element through cropping, we must draw principally upon the natural supplies of concentrated phosphorus. The greatest source of phosphorus is phosphate rock, the petrified remains of myriads of antediluvian animals, and the principal deposits of phosphate rock are found in the United States. Again, the greatest of these have been but recently discovered in the public-land States of Wyoming, Utah, and Idaho. This field embraces the largest area of known phosphate beds in the world. The United States produces more phosphate than all other countries together. To merely offset the rate of loss above mentioned and maintain the present fertility of all the cropped land in the United States would require the use of over 12,000,000 tons of phosphate rock annually.

But people say that there are inexhaustible supplies of this phosphate in the great deposits of Florida and other States. There are, it is true, large deposits of this precious mineral, but the supply is far from inexhaustible; it is distinctly limited and all too small. Moreover, heavy inroads have been made into it, and the worst of the situation is that one-half of the phosphate mined in America is being exported to enrich the worn-out and competitive lands of foreign countries.

"American phosphate for the American farmer" is a good cry; it might well be adopted, not as the warning of the sentimentalist, but as a grim slogan of self-protection.

The Geological Survey's last estimate, admittedly conservative, for the total tonnage of the high-grade phosphate deposits of the United States, was less than 150,000,000 tons—a 12-years' supply to offset our present waste. Since then geologic work has developed large deposits, notably in the public-land States of Wyoming, Utah, and Idaho; so that it



TURNIPS AND CLOVER RESPOND HEAVILY TO PHOSPHATE STIMULATION

Experiments of Maine Agricultural Station with phosphorus in which raw rock phosphate applications shows the heaviest yields.

Turnips: Box 1, dissolved phosphate; box 2, raw phosphate; box 3, insoluble phosphate of iron; box 4, no phosphate.

Clover: Box 1, dissolved phosphate; box 2, raw phosphate; box 3, insoluble phosphate of iron; box 4, no phosphate.

may be reasonable to make a guess of the existence of double this figure, or 300,000,000 tons. But every ton of this will be needed on American farms, and it should be our hope that other great deposits may be discovered which will yet again double this tonnage.

And exportation of this vital element should be stopped.

The following tables, compiled from the figures of the Geological Survey and the Bureau of Statistics, show the production and exportation of high-grade phosphate rock:

Production and Exportation of Phosphate Rock in United States

(From the beginning of the industry to 1900, the production was 14,993,396 long tons; export figures covering this period are incomplete.)

Year.	Production, long tons.	Exportation, long tons.
1900	1,491,216	776,220
1901	1,483,723	624,996
1902	1,490,314	747,072
1903	1,581,576	817,503
1904	1,874,428	849,130
1905	1,947,190	879,979
1906	2,080,957	964,241
1907	2,265,343	900,983
1908	2,386,138	1,188,411
1909 (estimated)	2,500,000	1,300,000
Totals	19,100,885	9,049,135

We have thus mined 34,000,000 tons of phosphate, while during the past ten years our exports have been one-half the production. But how can exportation be curtailed? Obviously you cannot successfully appeal to a New Jersey corporation backed by foreign capital and organized for the purpose of mining and exporting Florida and Tennessee phosphates, and which owns the phosphate deposits.

Yet something can be done, and the prospect is one to arouse the enthusiasm of every American. Through great good fortune the nation still owns by far the largest portion of the phosphate lands, and it may yet go down in history as the greatest act of President Roosevelt's administration that he withdrew from entry all known public phosphate lands with a view to asking legislation which would allow their mining only on condition that not a pound of the phosphate should be shipped beyond the borders of the United States.

In December, 1909, on the recommendation of the Geological Survey, 4,541,300 acres of public land in Wyoming, Idaho, and Utah, known to be in part at least underlain with phosphate beds, were withdrawn from entry. Upon further investigation 2,570,017 acres of this were found to be non-phosphate, and were promptly restored, while 400,000 additional acres of phosphate lands have since been withdrawn in this western field, besides 2,400 acres in Florida.

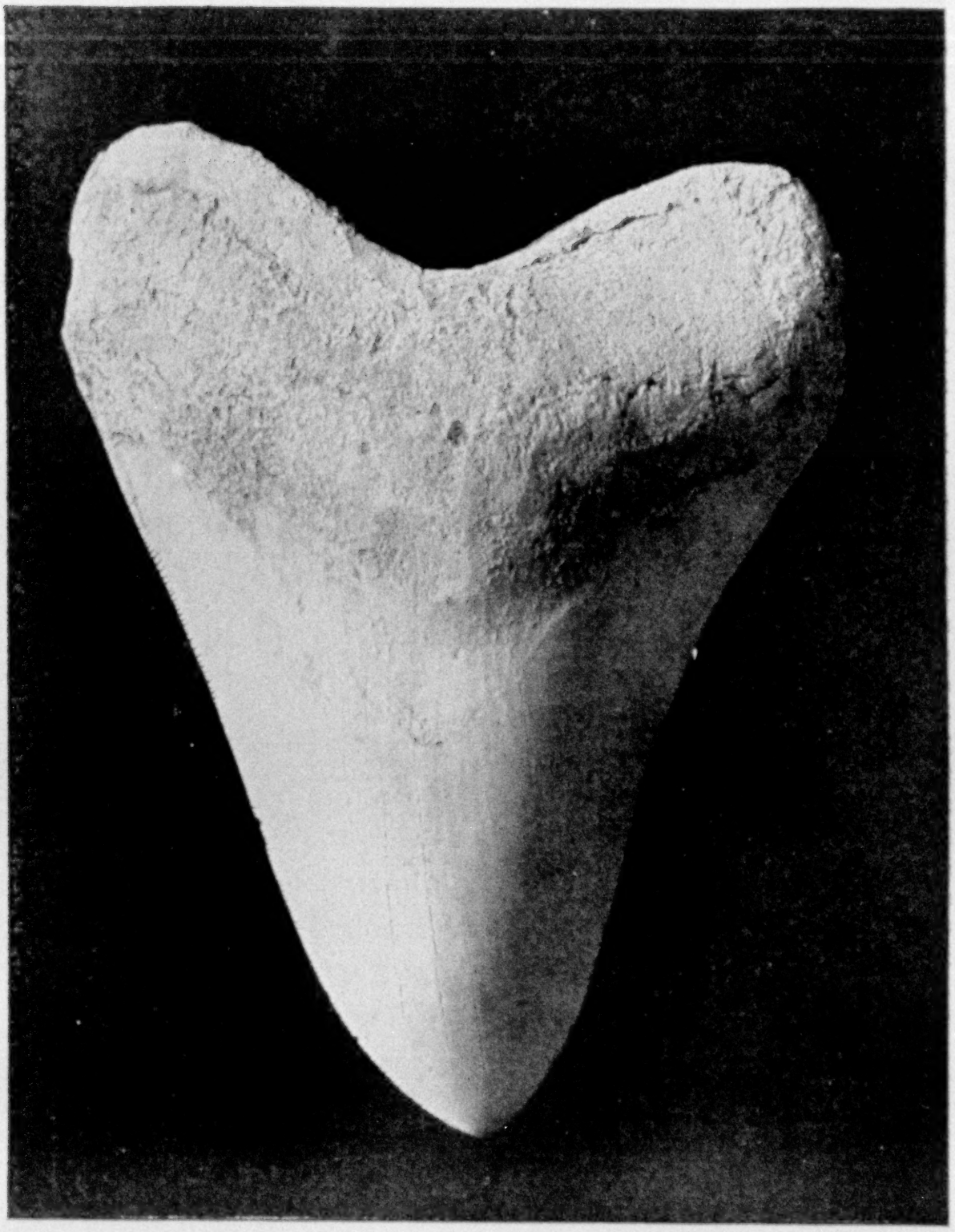
The public lands at present withdrawn on account of their valuable phosphate deposits are as follows:

	Acres
Florida	2,400
Idaho	1,149,569
Utah	87,040
Wyoming	1,267,494

This season three Geological Survey parties are in the field studying the deposits and procuring data for further classification.

It may not be generally known that Florida yet contains a large amount of government land. The phosphate deposits of the State have been little studied geologically, but there are believed to be many large unknown beds. At any rate, 2,400 acres of government phosphate lands in the State were withdrawn in May, 1910, and other areas are to be withdrawn. This checks the export game from the major portion of the phosphate fields, although the international fertilizer trust and other companies are understood to be in the market for any good phosphate land.

Following the first withdrawal of the phosphate lands in the West, the director of the Geological Survey was called upon to explain to the Public Lands Committee of the House of Representatives why he recommended this withdrawal. A number of lawyers who were present at the hearing representing western interests criticized and protested against such government interference with the development of the West, and were emphatic in their statements that the phosphate deposits of the world were practically inexhaustible. They cited accounts of phosphate discoveries in the South Sea islands and other sections of the world, and characterized the phosphate conservation movement as an absurdity. Director Smith replied to the effect that there had been some questions raised as to the legality or constitutionality of attempting to limit exportation of phosphate rock. He stated that he would hesitate to express an opinion upon such a matter as being outside of the scope of his activities; but when it came, he said, to lawyers invading the field of geology and present-



PURE "PHOSPHATE ROCK"

A prehistoric shark's tooth, natural size, found in Florida phosphate mine. Millions of such teeth, large and small, are shoveled out by the big mining dredges

ing off-hand statements as to unlimited supplies of a mineral and inexhaustibility of deposits, he felt called upon as a geologist to challenge such statements. By training the geologist was better fitted to see deeper into the ground than a lawyer could, and to estimate farther ahead in the matter of mineral deposits or supplies.

In this discussion the western attorneys denied that there was any intention of securing these lands for the purpose of exporting phosphate. It appears, however, at the very time that Director Smith

was making his statement the Geological Survey received a communication from the German consul at Atlanta, Georgia, stating that he had seen the notice of withdrawal of public phosphate lands, and that, as it was of the greatest interest to the German importers of phosphate rock to know to what extent they might depend on the output and exportation of phosphate rock in the United States, he requested such publications as might pertain to the subject. "It would especially interest me to know," he wrote, "the exact extent of the areas containing phosphate rock, and to be informed which of such lands are owned by the United States and by different individuals, States, and private companies." It will appear from this that the foreign fertilizer interests did in fact have their eyes turned toward these western fields for exploitation following the exhaustion of the eastern deposits.

As little is known by the great majority of farmers on the subject of fertilizer as perhaps any vital problem which confronts them, and many a man applies expensive nitrogen and potash to land which needs only phosphorus.

The Ohio Agricultural Experiment Station, in a long series of experiments with crops of corn, oats, wheat, clover, and timothy, has shown that every dollar invested in phosphorus paid back $4.76 under conditions in which neither nitrogen nor potash paid back their cost. The same station has found as the average of 56 tests in 11 years' work that when rock phosphate was applied in connection with manure every dollar invested in phosphate paid back $5.68.

Other interesting experiments have shown that raw phosphate rock, ground very fine and applied directly to the land without chemical treatment, is in most cases far more beneficial than what is known as acid-phosphate or phosphate rock dissolved with sulphuric acid. Until recently it had been assumed that, unless so dissolved and made "available" for the plant's use, phosphate rock was of no value as a fertilizer. It is now known that for use on all but very thin or impoverished lands raw phosphate will produce equal if not greater crops than the dissolved phosphate, while the sulphuric acid treatment approximately doubles the cost per ton of the phosphate and the fertilizing value is only about one-half. As a permanent improver of soils the untreated rock has much greater efficiency.

In dozens of State and Federal experiments the great increase in crop yield on almost all soils through the use of phosphate has been clearly proven.

Our first phosphate mining began in South Carolina in 1868. That State has since mined 12,000,000 tons, but her supply is largely exhausted. Florida came forward in 1888 as a great phosphate field, and she has produced 15,850,000 tons and is now the greatest producing State. In 1908 her output was 1,692,102 tons, valued at $8,500,000.

Tennessee phosphates were discovered in 1892, and this field became the greatest then known. About 5,800,000 tons have thus far been produced and the development of the field is yet in its infancy. However, considered as the sole source of supply, at the present rate of increase in national production the Tennessee phosphates would last only 11 years.

Arkansas next entered the field as a phosphate producer, but the rock is low grade and the output is small. Then came the discovery, a few years ago, of the great phosphate field of Wyoming, Utah, and Idaho, and it is in this and in the public phosphate lands of Florida that lies the hope of the American farm. On the basis of a rough reconnaissance three years since the United States Geological Survey estimated the tonnage of this western field at 63,000,000 tons, but further field work has shown this to be much too low. It is to be hoped, and it is the belief of the writer, that the detailed geologic investigation of this large field now in progress will show this figure several times multiplied.

Pending the proposed legislation by Congress, the known government phosphate lands remain safely tied up by the executive branch of the government,

while additional areas may be expected to be withdrawn as fast as they are found to contain phosphate. The proposed legislation is comprehensive, and, if Congress has in mind the future cost of living, the export restriction will include all public phosphate land in the United States now known or later discovered.

The geologic age during which the western phosphates were laid down was one of immeasurable importance to man, who, millions of years afterwards, was to appear upon the earth—the Carboniferous Age—that of coal and other useful minerals. This period followed the one when the Rocky Mountain backbone of the continent was beginning to push its way upward, and when a large portion of North America was covered by the shallow, primal ocean. The western phosphate beds were deposited by the washing down of the remains of myriads of minute animals on to what was then a shallow ocean bottom. The climate of the region was almost tropical, producing gigantic ferns, palms, and huge trees, but the animal life which contributed to the priceless phosphate deposits constituted a very low order. The giant reptilia, the great dinosaurs and plesiosaurs and other huge creatures came later.

The statement has been made by more than one person that this whole fertility-of-soils question is a false alarm. Why should our lands become so soon deficient in phosphorus when the soils of older countries have been farmed for centuries without extensive phosphate applications? The answer is that, in addition to shipping abroad great quantities of raw farm products containing thousands of tons of phosphorus, we waste. The Old World has learned to save and utilize sewage and various by-products which we destroy. American farmers have burned up millions of tons of straw and cornstalks containing large amounts of plant food. Dr. Van Hise, of Wisconsin, estimates an annual waste through the sewage of only the larger cities of the United States of the equivalent of 1,200,000 tons of phosphate rock. The total of the waste of phosphorus, potash, and nitrogen through exposure (see page 788) and other loss in the careless and ignorant handling of farm manure has been stated at between $50,000,000 and $100,000,000 annually. Until America learns, therefore, to avoid waste to a much greater extent than at present, there will be need for the application to the soil of much nitrogen, potash, and phosphorus.

And the greatest of these is phosphorus.

CURIOUS AND CHARACTERISTIC CUSTOMS OF CHINA

By Kenneth F. Junor, M. D.

NOTHING so profoundly impresses the traveler in China as her complete reversal of the greater number of our manners and customs. This fact is everywhere and every day evident.

The world generally believes the Chinese to have been always a stagnant nation, which is a great mistake. Changes in the fundamental form and character of the government have swept over China at frequent intervals with an intensity amounting almost to revolution.

Down through all the ages, from 1500 B. C. till today, certain forces run through her history like golden cords binding this great people into almost eternal solidarity. Among these are:

1. Belief in an omnipotent force—not always a person.

2. The deep sense of retribution, inevitable for all men.

3. Reverence, often changing its object, but ever there.

4. The sense of filial obligation, never diminishing, and extending even to the unseen personalities.

These are great forces in life—individual and national—and in no land are they so powerful or so all-pervading as in China. No people are more potently influenced by the unseen world.

Chinese civilization is one of the oldest on earth, and the only one which has continued uninterruptedly and vigorous till the present day. That it is vigorous is strongly impressed upon the man who travels far in that land. The reach of imperial authority is a constant subject of surprise and wonder. The card of an imperial prince, given to a traveler, will convey him safely and unmolested and secure for him courteous treatment to the remotest borders of the land: and yet China, unlike Japan, has never been under the domination of an aristocracy. The strength of certain governmental forces, under apparently disjointed conditions, is to the bewildered traveler as pleasing as it is surprising.

He finds relays of guards ready to receive him from the hands of one official and to convey him to the safe conduct of the next, and that frequently among peoples who have no knowledge of each other's speech and through officials utterly unknown to each other.

All officials, the binding links of this great government, come first from all the provinces, through their ancient system of civil service examinations, held in every great city. Finally they reach Peking, the capital, to be there fully equipped for government service and then sent back to represent and exercise imperial authority over the whole empire.

This civilization is unique and exceedingly difficult to understand. It is in some particulars so fixed and apparently impracticable, and in others so flexible and even loose, that it seems a mass of contradictions.

THE FORM OF GOVERNMENT

The form of the government is an imperial democracy. The imperial authority is absolute, but only within the law. The right of the people to revolt and dethrone the sovereign is most tenaciously maintained, notwithstanding the fact of the sacredness of his person in his being the ecclesiastical as well as the civil head of the nation.

The imperial censors, a department of the government, have been known to call down the Emperor, when acting illegally, as inflexibly as they would the humblest official. A censor, in fact, has been known to do this, and then take his own life at his sovereign's feet.

"The divine right of kings" has never had a place in China's polity as it was understood in Europe. Democracy is most plainly manifest in her municipal organization and administration.

This is the land whose cities have no lights, no plan, no sewers, and no sidewalks. Her people have no public spirit, no patriotism, no idlers, no national feeling, and no secrets. The splendid monuments of one dynasty are almost invariably destroyed by its successor. A deeply religious people, yet, according to their proverbs, priests and temples are a curse.

Notwithstanding all these anomalies, every province, every city, every hamlet is districted, and in the hamlets some respected citizen is recognized as head man. He is held responsible for its good conduct. If any crime is committed he is held till the culprit is found. In a land where there are few secrets, and where these head men are very close to the people, the guilty seldom escape. Numberless cases of social trouble and dispute are, through this arrangement, never brought to the courts, but are settled among themselves. This paper, of course, records the conditions only among those Chinese who have come little in contact with foreigners and who constitute the vast majority of the nation; whose heroes are pictured sitting on their halos instead of wearing them.

Her millions amply testify to ages of untiring energy in her stupendous public works, her myriad walled cities, her great wall, 1,500 miles in length and from 20 to 25 feet both in thickness and height, climbing the mountains and span-

Bargaining for gold and silver shoes (ingots) made of paper for use in temple worship and at funerals: Peking, North China

Photos from Rev. B. St. John

RAG-PICKERS IN PEKING, NORTH CHINA

ning the rivers, being in many important passes double-built 2,000 years ago. What nation can match it?

Her canals surpass those of any nation in history in their extent, and here is found the longest canal in the world. It was built at the dawn of the Christian era, and is 800 miles in length

Think of her hundreds of cities which are circled by mighty walls, some of them from 40 to 50 feet in both height and thickness, and the human labor expended in their erection.

Ethics, conduct, personal and official, the principles of government and religion have all been discussed, ably and ever, exhaustively, by the scholars of China in public and in books; first by Confucius and Mentius, 600 years before the time of Christ, and since through succeeding ages by many thousands of less celebrated but able writers.

THE LITERATURE OF CHINA

One of the most remarkable literary sights in the world can be seen at Hsi-Si, the seat of an ancient university, where are 320 massive stone columns on which, through the ages, have been inscribed the names of more than 60,000 of China's highest graduates. The writings of this literary host constitute a splendid body of literature of millions of printed volumes, for China had books ages before the West knew printing.

The time of Confucius and Mentius was China's golden age. The influence of their writings surpasses anything in any language. Every Chinese student, every official for 2,500 years, has studied them as classics. They have memorized the sayings, thought the thoughts, and, more or less closely, followed the example of these great sages.

Think for a moment of a great people through 25 centuries forever harking back to these remote ages and these truly great men. Who can measure the influence, even of this attitude itself, under such conditions, and who the influence of writings whose power has been acknowledged by millions through 2,000 years? No wonder it has made them a peculiar people, intensely conservative and exhibiting a civilization which is a complete reversal of our own, which is the development of an opposite experience and purpose, namely, looking toward the future.

Many a Chinese emperor has sought to break the power and force of this literature, feeling it to be a millstone about the neck of despotism. One of the greatest of the emperors, the one under whom in 230 B. C. the Great Wall was built, ordered all the great writings to be consumed to ashes, and this was done. But the great scholars who had them stored in their memories rewrote them, and, to secure them against any second destruction, in 170 B. C., had them engraved upon 170 slabs of granite, which remain to this day. From these tablets, by a happy accident, the art of printing was discovered. A damp paper having been one day laid upon their face, the impression was noted and the discovery made about 650 A. D.

The scholars today rule China. Where dress is of more moment than in any country, yet the scholar, though poor and meanly dressed, is received with honor by the highest in the land.

"The superior man" of the classics is the equivalent of the "*good man*" with us. This man, his character and his conduct, is their constant theme. His virtue, his honor, his social relations, his manners in public and private are carefully defined. His dignity is among his highest qualities and must be maintained at any cost. Ceremony, with a capital "C," is his life. So deeply has ceremony burrowed into his character that it not only reaches the absurd but approaches the tragic, since it must be maintained, even at the expense of truth.

The very character in which the classics are written is worshiped. Literary societies all over the empire send out men who collect every piece of paper, every bit of wood or crockery on which is written or printed a character. These are all consumed to ashes in bronze urns at the Confucian Temple, and are then carefully boxed and carried in procession,

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WOMEN WOOD-CARRIERS

THRESHING BEANS

followed by all the officials in their official robes, and cast into the water as an offering to the god of literature.

THE DIGNITY OF CORRESPONDENCE

While we construct our sentences to make our meaning clear, the Chinese love to conceal the meaning, only giving you a clue by which you may discover it. In epistolary correspondence they are absurdly ornate and stilted. For example, a Chinaman, on receiving word of the death of his parent or relative, will call upon some one, perhaps a young lad, to procure a stereotyped letter from a copybook, one suited to the social standing of the deceased, tell him to copy it, and send it off for him. It must be in good form in any case. Official documents, on the contrary, are terse and to the point.

The reason for this strange reversal is this: Correspondence is common and is therefore likely to become careless and vulgar in style. Official documents are not exposed to this danger; therefore the dignity of the endangered style must be sustained. The claims of affection give way before it. The character of an official document will sustain its own dignity.

The "superior man" never calls a spade a spade, as with us. A "sheet of paper" is a "flowery scroll" because of its possibilities. "Husband and wife" are "tenor and treble" because of their verbal relations. "A genius doing drudgery" is a "race-horse to a salt wagon." The prettiest street in Canton is called "Street of Refreshing Breezes," etc.

The boy in school turns his back upon his teacher when reciting, to show his humility and respect in the presence of the scholar. There is also the practical reason that he is thus unable to gain any help from the teacher's expression of face.

The Chinese read from above downward and from right to left. Books are printed on only one side of the page, and the page is a double sheet. The language has no grammar. A school is a bedlam of noise, because each child recites constantly at the top of his voice.

RELATIVE POSITION OF THE SEXES

The position of woman is degraded, but it has become so as an additional attempt to exalt and sustain the superior man. On entering a room he precedes her, and she stands up to address him.

The superior man rarely hurries or exerts himself, because by so doing he risks his dignity. He would be utterly ashamed if anybody caught him jumping a ditch, for example. The superior man must be carried over in a chair or on the back of a coolie. He is horrified at his wife, or, in fact, any woman, doing any undignified thing, such as playing lawn tennis, because, though she is inferior, yet her dignity touches the dignity of her lord.

The character, however, of this superior man has in practical life sadly deteriorated. Through ceremony the soul has practically departed from his conduct and the ceremonial body alone is left. Thieving and lying are too frequently considered as less culpable than the indignity of being caught.

A Chinaman mounts a horse from the right side, and with the right foot, and holds the reins in the right hand—all because he can more easily and safely maintain his dignity, in the doing of these things, by using the stronger hand. When mounted he rides slowly and sedately; never more than at a walk. He stands his horse in the stable with his face outward, because it is more dignified to approach a beast to his face.

If he meets you on the street in undress he will probably pass you without saluting, but later he will return, fully dressed, to confer upon you the proper offices of politeness. Time and trouble are no object in the case. This is his idea of honoring and sustaining the dignity of the superior man in himself and you.

THE ETIQUETTE OF THE TABLE

The guest of honor is placed on the left in China, because in this position alone can the host gracefully and in a dignified manner perform towards him those ceremonial offices of propriety re-

quired on such occasions. In that position he can pick out with his chop-sticks any little tidbit, and either place it on the table before his guest or place it directly in his guest's mouth. If his guest were on his right side this could not be done.

The guest is compelled, by propriety, fairly to gorge himself at a banquet in order to show his appreciation of the feast. He must leave nothing on his plate. He will eructate into his host's face to show his relish of the viands. On entering and leaving, host and guest will keep up the "Gaston and Alphonse" act to weariness, vying with each other as to who shall be the last to pay the offices of politeness.

If his tea or soup should grow cold he will make a great noise with his lips in drinking it, to give the impression that it is hot, so that his host may not be charged, even by implication, with any neglect of hospitality. Tea might be called the formal social glass in China, but the real treat at the meeting of friends in a social chat is pumpkin seeds. Water is never drunk cold, but hot.

Men and women do not eat together, but the employer will eat freely with his employees at the table. By eating with women the dignity of the superior man would be sacrificed. At a wedding the groom is the center of interest. The bride is noticed only as a matter of curiosity. Her feet are of the first interest, because a woman's beauty, to the Chinaman, is in her feet, not in her face.

THE ORIENT VERSUS THE OCCIDENT

The scholar never pares his nails. He never works save with his pencil, and, as he has little use for the left hand, he loves to cultivate long nails on that hand. Scholars with nails ten or twelve inches long are seen. The nails of the Dowager Empress were from four to six inches in length and protected by jade and gold thimbles.

The Chinaman, when puzzled, scratches his foot instead of his head. Many other instances of reversals of western customs can be given, the reasons for which, however, are not so easily discoverable. They are due to custom and environment. Their beds have no mattresses and their furniture no upholstery, but the carving and inlaying are beautiful. Their pillows are hard blocks of wood or little boxes in which the traveler carries his toilet articles and money. They have no stoves, and, in many sections, to keep warm at night the beds are the tops of brick ovens. Where there are no ovens they simply pile garment on garment till they are so solid with clothes they can hardly move. They carry in the hand little stoves in the shape of baskets containing charcoal.

The women wear pants, while the men wear long gowns down to their feet. The vest is worn outside the coat and the soles of their shoes are white and not black.

Although woman is so despised, she has two weapons which give her incalculable power. One is her tongue, regarding which their proverbs are extremely eloquent. The other is her threat of suicide. By this threat a Chinaman is scared into giving his wife anything she desires. We designate our criminals by numbers, but the Chinese so designate their wives as number one and number two wife.

They locate intelligence in the stomach. Their surgeons are outside doctors; their physicians are inside doctors. If a patient were shot by an arrow, for example, the surgeon would break off the pieces outside and the physician would extract the remainder embedded in the flesh. They pay their doctors to keep them well, and punish them, if they can, if they get worse or die. A doctor's fee is called "horse money," because the physician's office is a degraded one. No dissections or amputations can be performed, because the body must pass into the spirit world unmutilated. If the surgeon proposed amputation he would probably be asked how much he would be willing to pay for the privilege.

DELICACIES OF THE TABLE

Fruit left to ripen is considered unwholesome as being too near to decay,

and yet they eat things a thousand times more dangerous. They eat the beaks of birds, the fins and brains of fishes, the entrails of animals, and consider that the claws of tigers, boiled to a jelly, impart strength. The flesh of snakes gives cunning.

Eggs are appreciated according to their age. Those 100 years old, black with age from being preserved in ashes, are great dainties but not uncommon.

Husband and wife are betrothed in infancy. The intended bride comes to his home and becomes a servant to her mother-in-law as long as she lives. No separate family is set up on a son's marriage; simply another addition is made to the house. Thus there are little villages, consisting of a single family, scattered all over China. Some have reached the dignity of cities of a single clan.

Pawnshops are in rich, not in poor neighborhoods, and are only patronized by the well-to-do.

With robbers and beggars they have regular contracts, and the night watchman goes round your house beating at intervals a hollow bamboo to inform the thieves of his whereabouts and at the same time prevents your sleeping, so that *you* may be ready to repulse the thief if he should attack. It is a pretty theory for comfort, surely.

In mathematics their decimal fractions are our vulgar fractions and vice versa. Their denominator is our numerator, etc.

They row a boat standing up, facing the bow, and haul the boat on shore by the stern instead of the bow. They tow by the masthead instead of the bow. There are excellent reasons for these reversals. The Chinaman says we were not given eyes in the back of the head and should see, certainly, where we are going, which our method prevents us from doing. They always write Smith John, and date a letter by the year, the month, and the day, and in these customs they are decidedly right.

THE MARINER'S COMPASS A CHINESE DISCOVERY

The mariner's compass was discovered by them 1100 B. C., and was first used on land. The needle points to the south. Chariots equipped with it were called "south-pointing chariots." Contrary to our mode of expression, they say west-south and east-north.

In contradiction to their own ideas of dignity, however, "the superior man" will play battledore and shuttlecock with his feet and fly kites, while the boys, like old men, stand sedately by and look on. This he does as a method of instruction, and to show the children how the superior man can relax when the high purpose is to entertain and educate the young.

The woman in sewing pushes the needle from her, while the carpenter draws his plane and saw toward him in working, the teeth of their saw being set in the reverse order of ours. Money is divided by weight, and consequently the Mexican silver dollars, which are current, are chopped into bits and handed out as change. They have only one national coin, the "cash," which is of varying value, from one-sixth to one-tenth of a cent.

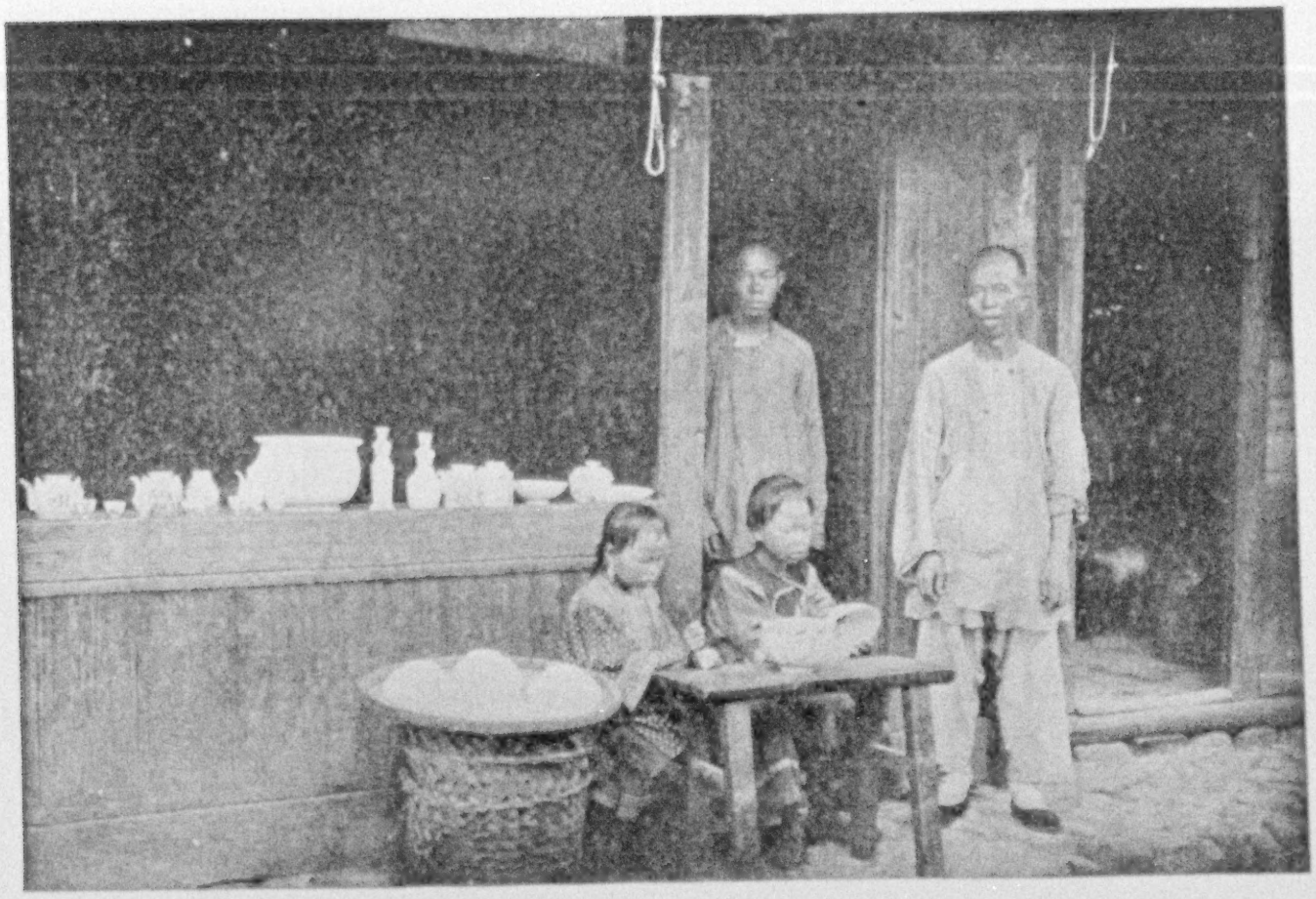
Vegetables, eggs, wood, etc., are sold by weight. In this they are far in advance of our absurd and unjust custom.

Men only have the honor of a funeral granted to them; women, having no souls, are not of sufficient importance. Their mourning color is white. Mourners at a funeral are all hired.

The traveler has constant and annoying experiences of the proverb, "Hope deferred maketh the heart sick." Meeting a fellow-traveler and asking him how far it may be to the next village, he will be told, "Oh, only 6 li." After traveling what he feels must be nearly that and inquiring again, he finds it is now 8 li. The simple explanation is that each traveler estimates distance, not by measurement, but by the difficulties of the road.

In some sections even the axles of their carts are fixed in the wheels and revolve on the body. They can be heard a mile away.

To the Chinaman the foreigner is a boor and a barbarian. It seems a hopeless task to teach him politeness. He



PAINTING THE WARE
In this art children soon become expert

POUNDING RICE
Preparing rice by pounding with a heavy stone

looks upon us as creatures of yesterday. To him China is the Middle Kingdom—not only the center, but the major part of the earth. I once saw a Chinese map of the world; it was three feet square and had a rim all around the edge one inch wide which was marked as the place of the outer barbarians; the rest was the "Middle Kingdom."

The Chinaman wonders why the foreigner leaves his country at all. Is it too small for him to make his living, or has he come to observe the superior people? If so, he is to be commended. But, alas! what a boor he is. What tight and uncomfortable clothes he wears, like the skins of beasts. How vulgarly he eats, and especially what quantities of flesh he devours. No wonder he is blood-thirsty and loves to fight—he has taken on the disposition of the beast. During the Boxer trouble, in the traveling Punch and Judy shows used to stir the people all foreigners were represented on the stage by the figure of a pig. Although fully convinced of our cleverness, he yet looks upon us as we do upon a trick dog. He is finally forced to the conclusion that he must adopt these methods which have made the foreigners so powerful.

THE HIGHEST HONORS ACCORDED THE SCHOLAR

It is difficult for us to understand the amazing hold of these ideas upon the Chinese mind. It begins in the village school. The boy ready to become a scholar is dressed like a Mandarin for his first day; elaborate preparations and ceremonies impress his young mind. His father accompanies him to school, where he bows to the ground before the tablet of Confucius and then before the teacher.

Only a Chinaman can appreciate the permanent uplift the boy receives from the consciousness of his having now entered upon the quest of scholarship. That first impression never fades. That this impression is phenomenally deep, not only on him but on all the people, is manifest by the high honor paid to the scholar.

When the student who succeeds in passing his first examination returns home, every one in his village and neighborhood turns out, dressed in holiday attire, to honor him. Everybody brings him a present and officials come in official robes to congratulate his parents. His household is privileged to erect two tall poles before the door and place a tablet over it stating this to be the home of a scholar.

But the real depth of the seriousness with which the Chinese regard scholarship is shown in the remarkable fact that for five long years, from sunrise to sunset, this school-boy will pursue, under the most discouraging conditions, the study of reading and writing characters, without knowing the meaning of a single one. It is an awful grind, which no human being could sustain save under the most powerful stimulus. That stimulus is the hope of being a scholar and an official.

ANCESTRAL WORSHIP AND THE FEAR OF DEVILS

What passes for religion is simply a conglomerate of ancestral worship or filial piety, mixed with Buddhism and Taoism. Translated into actual life, it is superstition of the grossest and most ridiculous kind. It controls every Chinaman and in almost every portion of his life from birth to death.

It may be truly said that the influence of the dead upon the living is even greater than all other influences combined.

Undoubtedly the early religion of the Chinese was the worship of the true God, the Siong-Te of the present day. That worship is represented by the Temple of Heaven in Peking. There the Emperor, a solitary figure, but surrounded by an imposing retinue of princes and high officials, and as the representative of his people, appears once a year to offer up a whole and unblemished bullock as a burnt offering. On the central stone of a magnificent terraced platform of marble 250 feet in diameter and three stories high, he kneels to offer prayer for his people. No subject is permitted to take part in this solemn act of worship.

XUM

The Emperor worships no idols, but makes and unmakes the other gods at will. His is the worship of heaven and means that his imperial authority is derived from heaven and is responsible to heaven. For 4,000 years this solemn act has been performed by each succeeding emperor. When the imperial family fled at the close of the late Boxer trouble and foreign troops entered the city of Peking, the sad spectacle was seen of this sacred edifice, sanctified by the worship of four millenniums (not of course at this very spot), turned into a barracks. Thus were the feelings of China wantonly outraged, and yet people wonder why they so bitterly hate us.

The common people are terrorized by a superstitious belief in devils.

The ordinary Chinaman knows nothing of religious distinctions. His religion is practically an elaborate system of devil worship.

All their gods are deified historical characters. Practically they have no idea of a heaven as we understand it. There is simply a place of spirits without any definite character. Buddhism, of course, describes the tortures of its hell, but Buddhism is only a part of the religion of China.

Rich men by large gifts of money have become the gods the Chinese worship. There are now being erected five new temples to Li Hung Chang, the great modern statesman, who is said to have paid one million dollars for the honor of being a god. Those who have money or property use it more or less lavishly, according to their fears in propitiatory rites, to these gods for favors desired or to purchase freedom from calamity. The Chinese spend yearly untold millions on these rites. It is from these wasteful practices, more than from any other causes, that the miseries of the Chinese come. Their terrors drive them into unparalleled distress. Chinese religious rites cause absolute waste, because millions of property are consumed to ashes in their observance. Until the cruel bands of this devil-worship are broken, China cannot become a great nation. Without money no one has any religious standing. His spirit cannot even reach the spirit world, but becomes a wandering ghost or devil.

They believe that every man has three spirits. These three spirits, in the case of Chinese who are properly cared for at death, have each a distinct place of residence. A fourth order of spirits also exists, consisting of the spirits of the uncared for and unburied dead. These latter are wandering spirits, ghosts, or devils.

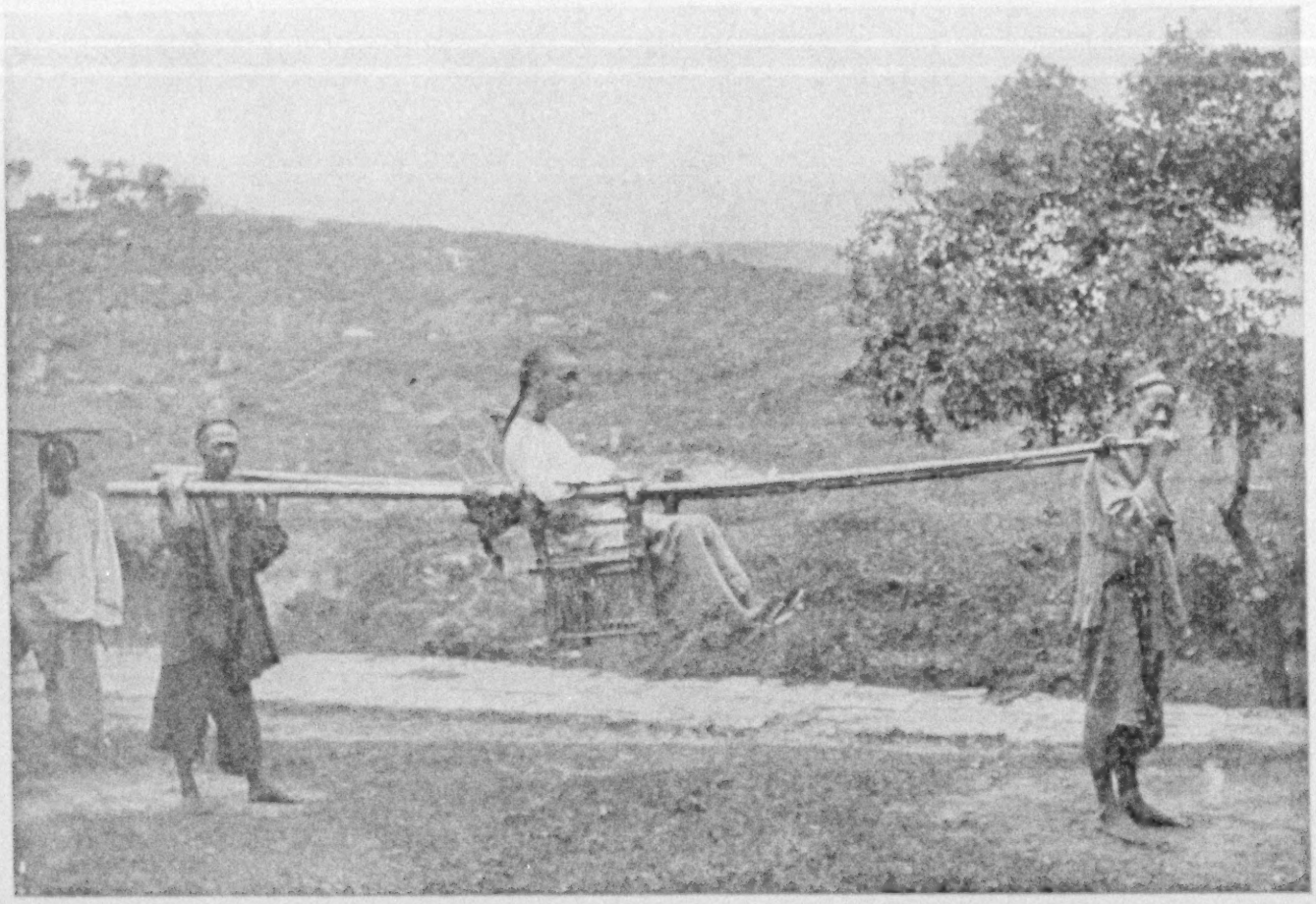
The first of these spirits, when a man dies, goes into the spirit world. Once a year all such spirits are liberated for a month to revisit their old homes. During this month tables covered with viands of every description are placed on the street before the door. It is hoped that these spirits, seeing this provision, may be induced to bring prosperity to the family. They believe these spirits partake of the viands.

THE LOGIC OF THE CHINAMAN AND HIS SPIRIT ZONE

A shrewd Chinaman, asked as to this by a foreigner, replied, "Well, I imagine our dead can as easily eat these things as yours can smell the flowers you provide for them."

A spirit's comfort and condition are in exact proportion to the provison made for them by the living. Everything is passed over to the spirit world by fire. At death a ceremony called Hong Tek is observed. A platform, often of silk, is erected, stretched over bamboo poles so as to represent a Chinese homestead. Fields and streams, houses, soldiers, servants, domestic animals, implements, vegetables, grains, fruits, and so forth, all made in miniature, stock it. Before this unique structure, which often costs several thousand dollars, Taoist priests perform the proper ceremonies, lasting three days. The whole structure is then set on fire and passes over for the use and comfort of the dead.

The second spirit does not go into the spirit world, but takes up its residence in the bones. When the time for burial



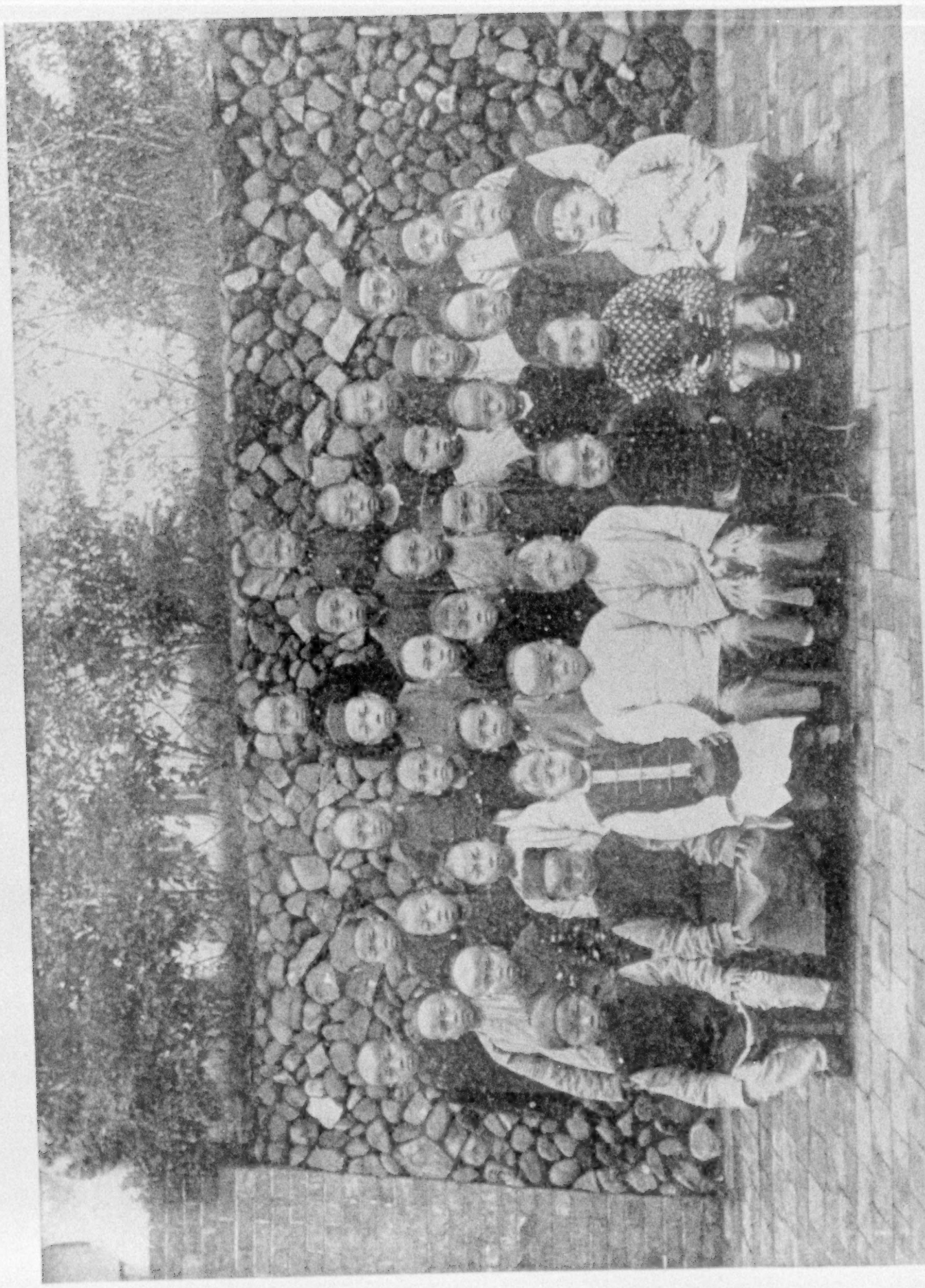
THE SIMPLEST KIND OF SEDAN CHAIR

arrives, which may be months after death, a live fowl is carried before the coffin to convey the spirit to the grave, and paper representing money is scattered all along the road "to buy the way" from the devils or spirits of the unburied dead, who are everywhere. At the end of five years the body is taken up, the bones cleaned, and replaced in an earthen vessel. This is the proper burial.

Every year the relatives go to the grave to offer provision and pay reverence to this "grave spirit." This is why all Chinamen desire to be buried by their relatives and in China, else their spirits may become wandering devils. For the same reason they make every endeavor to have the bones of their relations transported to China if they die abroad. Prosperity and health are only secured to the survivors by the proper observance of these ceremonial offices.

To the third order of spirits belongs particularly ancestral worship. By elaborate ceremonies the third spirit is induced to enter what is called an ancestral tablet prepared by the family on the approach of death. This tablet is the sacred symbol of the ancient religion of China, which Confucius found existing in his day, 600 years before the time of Christ. This tablet, containing the spirit of the father, is set upon the principal table in the house or is sent to a Confucian temple. In either case all the family pay their devotions before it. This is ancestral worship or filial piety. The Chinese are also firm believers in the transmigration of souls.

The fourth order are the spirits of the unburied dead. They are those which have no friends, no graves, no tablet, and which have never been conducted to the place of spirits. They are an innumerable host, wandering spirits, ghosts, or devils. They are everywhere — in caves, in mountains, and in valleys. They wander through the country roads and in the city streets. They are in stones and trees and houses. They pass through the air only a few feet above the ground. For this reason houses in China are only



STUDENTS OF BOYS' SCHOOL, CHINA: HINGHUA CONFERENCE

permitted to be one or two stories high. Pagoda temples and pawnshops are exceptions by special permission and payment. Here is found largely the objection to railways, telegraphs, and the high houses of foreigners. These things bring actual terror to the Chinese, for they interfere with the flight of devils. Calamities of every kind hang over the neighborhood through these offended devils.

Spirits cannot turn a corner safely; hence all public highways and waterways and city streets are never built straight, but twist and turn. It is hoped by this arrangement that the devils may get confused and lost. For this reason doors and windows are not placed opposite each other, and outside windows are rare, to prevent devils entering. As many intricacies as possible are introduced. The very straightness, therefore, of railways and telegraph lines and all roads built by foreigners is a menace.

In the above conditions lies one of the great secret causes of hatred toward foreigners; for, though the Chinese may actually build these roads and houses for the sake of the money they earn, yet they do so in fear, unless they can find a satisfactory way of counteracting their malign influence. The hatred, however, always abides.

DRIVING OUT THE DEVILS

Taoist priests can buy or drive these devils out, and you find them beating tomtoms through the streets at that work at any hour of the day or night.

Boys, so precious to the Chinaman, are given girls' names or dressed in girls' clothes, or called dogs, cats, or any old wretched things to trick the devils into supposing they are not boys at all. The devils may then think it not worth their while to bring calamity upon them. They certainly have a very poor opinion of the intelligence of these devils.

No journey, no business or social engagement is undertaken without propitiating these spirits.

No grave is located by the astrologers till the proper ceremonies are performed and their permission secured for burial. These burial professors are sent for at death. They live with and must be kept by the family freely and be paid besides. It is their policy, therefore, to prolong their decision as long as possible. Sometimes months elapse before they decide, and in the meantime the body remains in the house coffined but unburied. So superstitious and fearful are the people that, although they are quite aware of the trick, yet they submit to the dreadful imposition.

Not so strange is it that among a people dominated by such beliefs a coffin should be among the best of gifts to a friend. The necessities of such burial rites explain also the fact of the traveling Chinaman carrying his coffin with him as part of his baggage. Coffins are, for evident reasons, made of great thickness, and are supposed to be air-tight. This is, unfortunately, not always the case. Visitors would welcome more careful sanitary conditions.

Shrines are met with everywhere and in the most extraordinary places. Where any bones are found of some one murdered or starved to death, there a shrine is erected and the bones collected and placed in it. There the traveler will pause and cast in a "*cash*" or place an incense stick to propitiate the devil of the deceased.

Property is not devised by will, but is apportioned before the father dies. No such outrage as the neglect of parents can occur in China as with us. Honors, if conferred, are bestowed upon ancestors and not upon descendants. It is a constant subject of wonder why Chinese homes are so often located in such insanitary situations. The cause lies in the same fear of devils. The owners imagine themselves more likely to be free from their visitations, as they think the devils may not consider it worth the trouble to look after such wretched people.

The very reverse is the case with their graves. These are the residences of their ancestors and nothing is too good for them. The beautiful breezy hillside

having the finest outlook is chosen. The tombs of the sages are in fine groves of beautiful cypress trees.

Temples receive far less attention than graves, and, as they depend on voluntary support, in the majority of instances are often allowed to fall to decay.

Priests in China are classified very low down in the social scale. The Chinese proverb states that "when the priest and temple come to town morals fade." Priests and their sons are not allowed to become scholars.

The son is the climax and supreme desire of the family, because only a son can render the proper service to the father's spirit. For this reason female children are not welcome and infanticide is frequent, but always of the living child, necessarily; otherwise a son might be slain.

WHAT MONEY WILL DO

The rich Chinaman, if condemned to death, easily procures a substitute. Some poor wretch without money to secure his spirits from becoming wandering devils, with the price of his miserable life can purchase proper care for his spirit. Anything, in fact, can be done if you have the money.

It is this belief that causes the Chinaman to commit suicide by taking his life on the premises of his enemy to take vengeance on him. His spirit, he believes, will forever haunt him. There is another reason also: he knows that as sure as fate the officials will under such circumstances come down upon his enemy and strip him of everything.

Poor Chinese have been known to sell everything they possessed, tear down their houses to sell the timber, sell or rent out their wives and children, and even sell themselves to procure money for the proper rites for the peace and comfort of the ancestral spirits. One thing alone he will not do, namely, sacrifice his son.

At the death-bed, where with us the hush of sorrow reigns and affection brings silence, the awful beating of drums, the crash of cymbals, and the tumult of fireworks hold carnival to frighten away the devils who are tormenting the dying and causing death.

China, rich and picturesque, with climatic conditions ranging from the Arctic to the Torrid Zone, has an unrivaled history of over 4,000 years. Her discoveries and accomplishments cover—

Arches in architecture, carving in wood and moulding in bronze and other metals, painting with unrivaled colors, printing, paper from wood pulp, the mariner's compass, gunpowder and guns, books, astronomy, public assembly codified laws, civil service examinations, bank notes and coins, and heating houses by hot-air pipes carried from a furnace. All of these she possessed centuries before they were dreamed of in the West.

Travelers find salt mines 2,000 feet deep, crudely sunk by two generations of laborers.

Her mighty rivers, some of them 3,500 miles in length, have been so connected by thousands of miles of artificial canals that this land is a perfect network of waterways.

Her economists saw stability and equality in a proper division of the land among the people, in making labor noble, and in taxing the owners of unproductive land. To this day the Emperor, with great ceremony once a year, with a golden-handled plow turns up a furrow of land to point to agriculture and give labor dignity.

Although China's government is an imperialism, yet the Chinese people have always acted in opposition to the maxim of the divine right of kings. They have held inflexibly through the centuries that every man has an inalienable right to free thought and speech. They have always tolerated any and every form of religion, so long as it did not interfere with or in any way imperil the authority of the state.

EXALTED IDEALS EMBODIED IN THEIR PROVERBS

No people are less riotous or more amenable to the voice of reason. A Chinese mob, more than any mob, can be influenced, subdued, and made ashamed by a reference to the teachings of their

fathers, producing in them such bad manners. When other people dressed in rude garments, they were clothed in splendidly colored silks of their own manufacture, colors which have never been excelled to this day.

A distinctly religious and keenly intellectual people, they have passionately loved harmony, and have shown themselves capable of high thinking and modest living.

Diligent, also, they are to the last degree. Men and women slave from sunrise to sunset. Even the Emperor himself will frequently hold audience with his ministers at 3 or 4 o'clock in the morning.

China's contact with the West during the last three centuries has been most unfortunate. On our part it has been coercion, attack, and grab. We have despised her people and disregarded her rights, while demanding her trade at the point of the sword. Her age, her thought, her isolation have made her conservative and proud. We have tried by force to hurry her, and by shot and shell have compelled her to open her gates. Degrading superstition has made her suspicious, and the struggle for bread has made her intensely material. Still her superstitions have kept before her eyes the unseen, and possibly have made her people really less materialistic than ourselves. The Chinese deny themselves far more for their religious beliefs than do we. We should not forget that our better knowledge of the unseen, our clearer apprehension of religious truth, came from the revelation of the Bible, the foundation on which our higher civilization is built. In its possession we have, as a race, little of which to boast. To us it is a legacy from another ancient people, the Jews. Peculiarities as strong and characteristics as great as those of that ancient people are among the valuable possessions of the Chinese.

If we seek their favor only for purpose of trade we shall make no advance in their friendship. The proverbs of their sages, familiar even to the lower classes of China, are full of warnings against precipitately encouraging that form of friendship. They are keen to discern motives, and appreciate high and noble ones in others, however much they seem to be lacking in themselves.

The lessons of China's history, unlike those of Egypt, Greece, and Rome, are not dead monuments, but living experiences in a great and living nation.

China, though sustained by her material resources for 4,000 years, has hardly touched her wealth. Living on the products of her own labor for 40 centuries, her riches are today almost intact and equal to our own. In this marvelous fact are to be found rich lessons for political and social economists.

BOOK REVIEWS

The Great Wall of China. By Dr William Edgar Geil. Pp. 390, 7 x 9 inches. 100 illustrations. New York: Sturgis & Walton Co. $5.00 *net.*

The account of this expedition through the heart of China, along the Great Wall from the Yellow Sea to Tibet, is most interesting and of great value. Particular attention has been given to illustrating this volume, not only to substantiate the text, but to make material additions to it, so that, in many instances instead of long detailed descriptions the photographs furnish the information without encumbering the work. Not only is there an interesting geographical, historical, and legendary description of this vast project, but Dr Geil has set forth from his wide knowledge of Chinese literature much that is to us new concerning the country and the people.

A Summer in Touraine. By Frederic Lees. Pp. 318, 6 x 8½ inches. 100 illustrations, 12 color plates. Chicago: McClurg & Co. 1909.

The banks of the Loire, Vienne, and Cher, those parts of central France richest in natural beauty as well as in historic memories, are here described as they appear to a leisurely traveler, who sees, as he passes along the river banks, and wanders through the old chateaux, the whole pageant of the Renaissance in France. Starting from the once royal city of Blois we visit the typical towns of older France, so rich in historic passages. Then at Tours we renew acquaintance with Balzac, and in the country around see the original settings of much of "The Human Comedy." Mr Lees, however, gives definite information for the present-day traveler who wishes to see the most of Touraine, as well as historic insight for the fireside traveler, who will find every notable chateau represented in Mr Lee's photographs.

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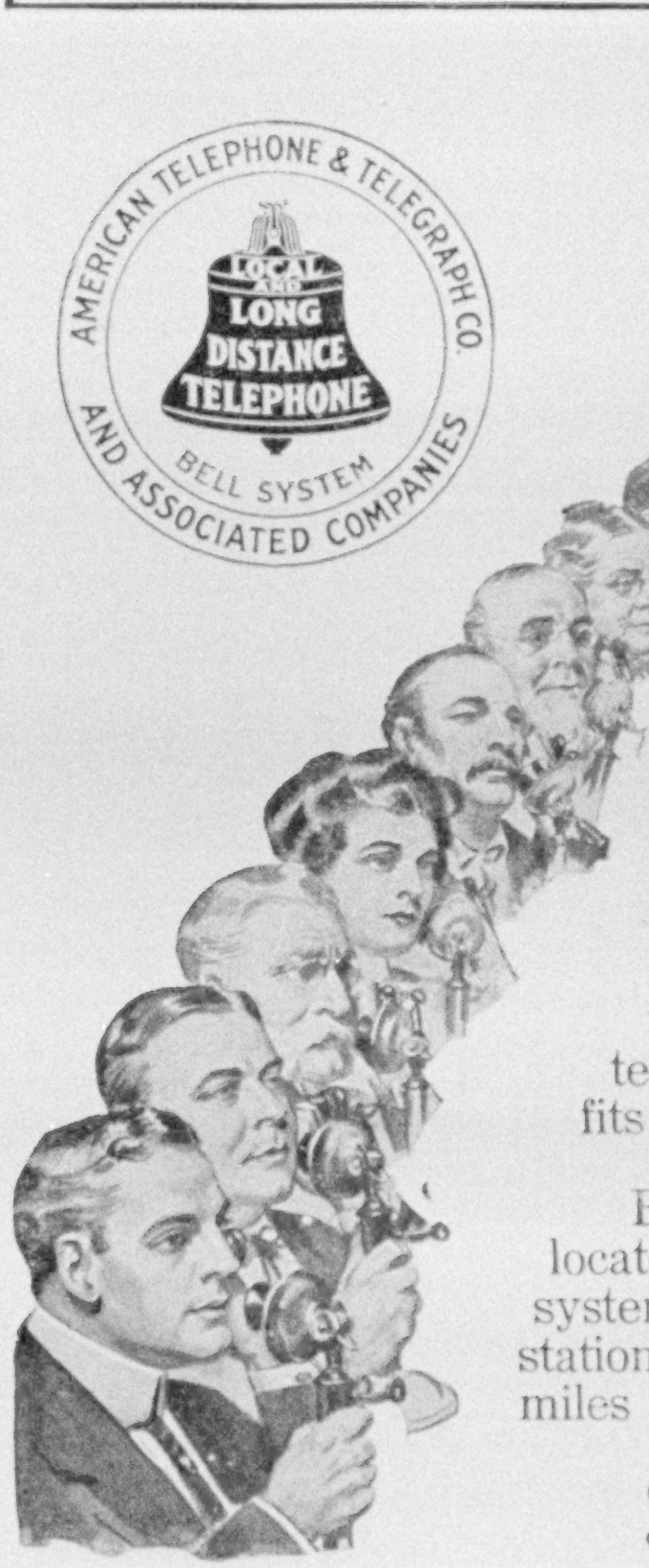

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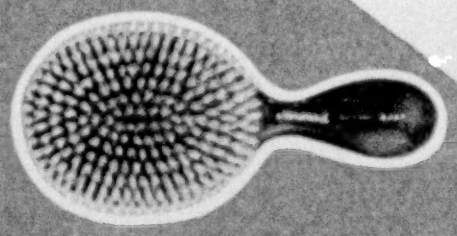

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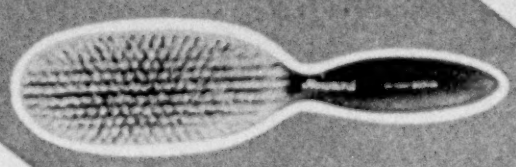

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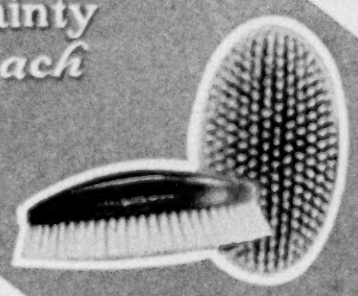

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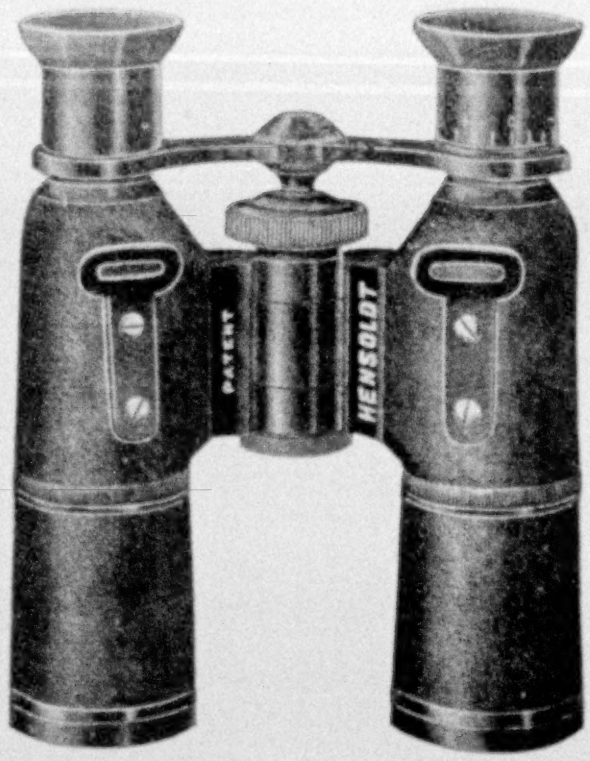

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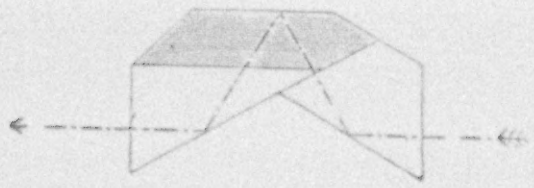

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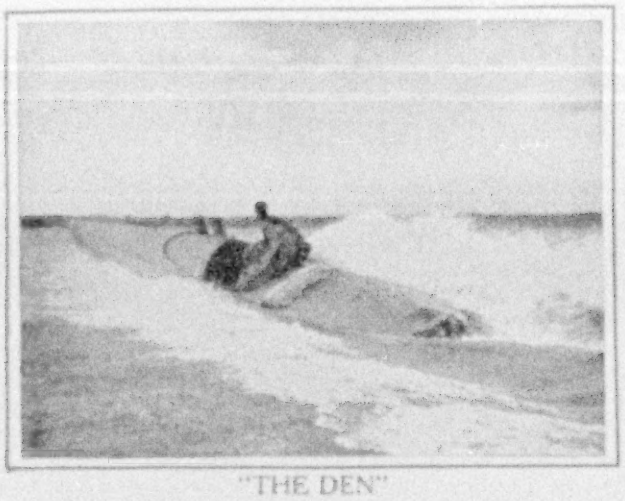

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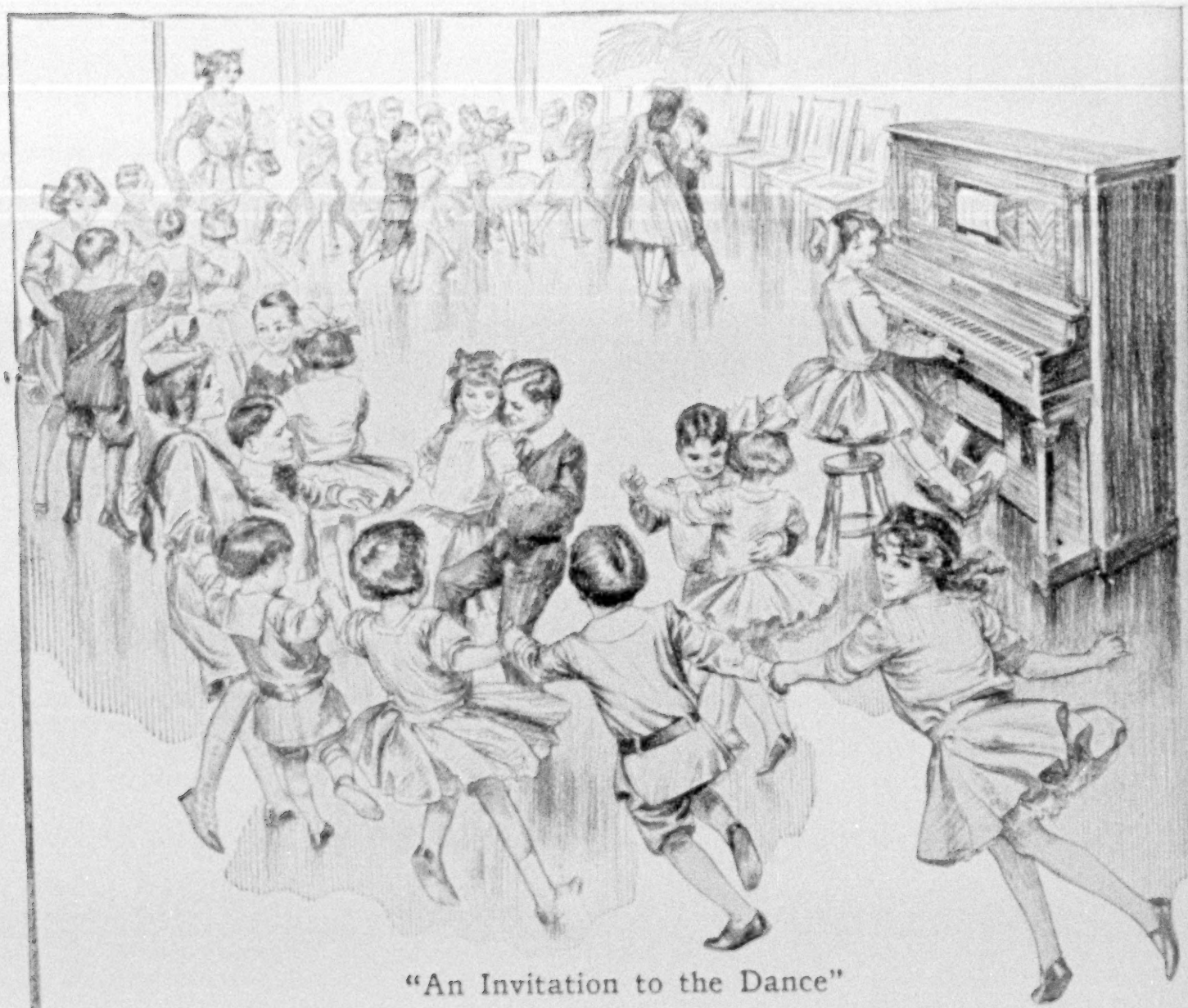

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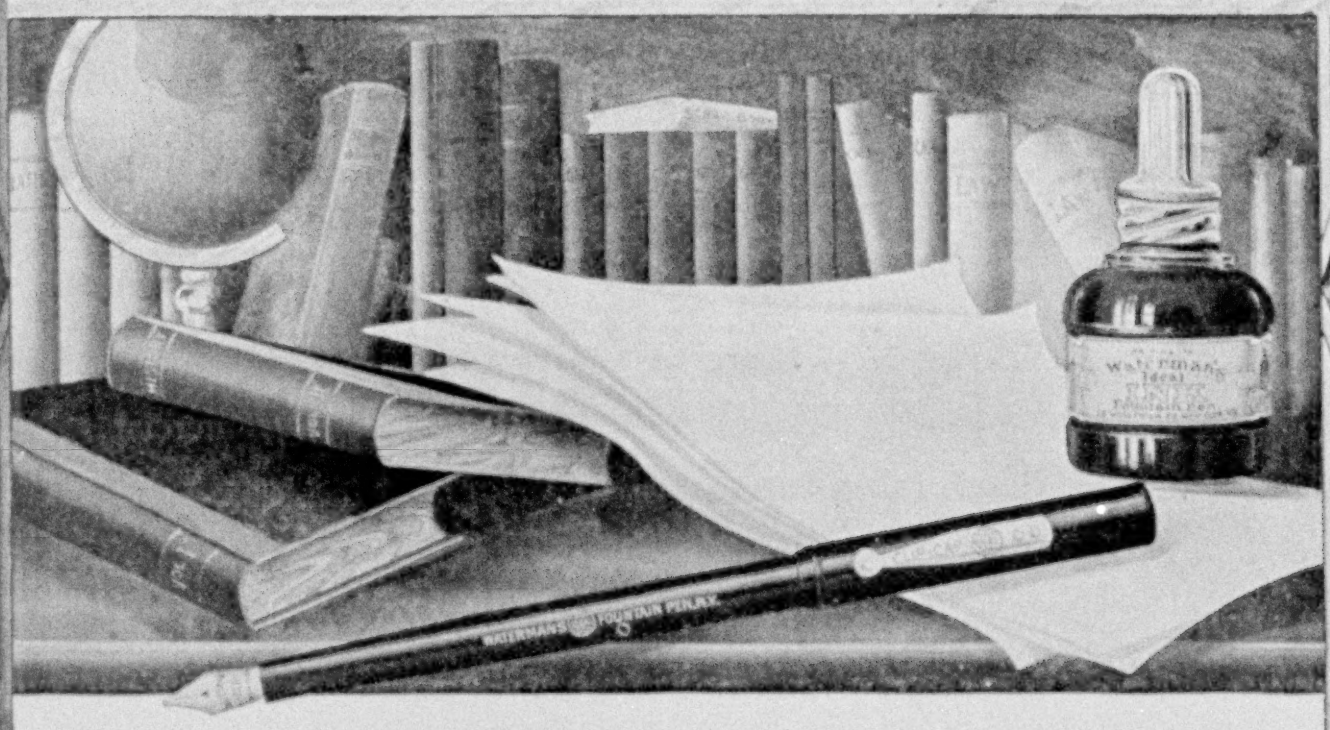

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